CITY OF ORLAND

PILOT FLYING J TRAVEL CENTER AND WESTSIDE ANNEXATION AREA PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NO. 2014102084

Prepared for:

CITY OF ORLAND
815 FOURTH STREET
ORLAND, CA 95963

Prepared by:

PMC®

140 INDEPENDENCE CIRCLE, SUITE C
CHICO, CA 95973

MARCH 2015

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ES Executive Summary

This section provides an overview of the project and the environmental analysis. For additional detail regarding specific issues, please consult the appropriate section of the environmental analysis (i.e., Sections 3.1 through 3.10).

ES1 PURPOSE AND SCOPE OF THE ENVIRONMENTAL IMPACT REPORT

This Draft Environmental Impact Report (Draft EIR; DEIR) has been prepared by the City of Orland (City) to analyze the potential environmental effects associated with implementation of the proposed annexation of six parcels and the development of the Pilot Flying J Travel Center project, in Orland, California. DEIR analysis focuses on potential environmental impacts that could arise from implementation of the proposed project, as regulated and guided by the large number of federal, state, and local regulations, including ordinances, General Plan policies, and local resource plans. The DEIR is intended to provide a credible worst-case scenario of the impacts resulting from project implementation.

ES2 PROJECT SUMMARY

The proposed project includes two components: (1) the annexation by the City of Orland of a total of six parcels and roadways within the area of annexation, and (2) the development of the proposed Pilot Flying J Travel Center on 7.5 acres of one of these parcels (APN 045-170-005). While all of the parcels would be annexed by the City, for the purposes in this EIR analysis, the 7.5-acre Pilot Flying J Travel Center project component (referred to as "Parcel A") is analyzed separately from the 12.13 acres of the area described as the Westside Annexation Area. The 12.13-acre Westside Annexation Area consists of a total of six parcels, including 1.7 acres adjacent to the proposed 7.5-acre Pilot Flying J Travel Center site and referred to as "Parcel B". Other than development of the Pilot Flying J Travel Center, all existing uses in the area to be annexed by the City are to remain as currently existing, and no development of these areas has been proposed as part of this project. However, in order to ascertain the potential for environmental impact resulting from annexation of the Westside Annexation Area, a theoretical development potential has been assumed based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed. The entirety of the new development potential of the Westside Annexation Area is located on the 1.7-acre Parcel B. This development potential is shown in **Table 2.0-1**.

The Pilot Flying J Travel Center project component proposes the development of an automobile/truck fueling station and a 12,964-square-foot building including a fast-food restaurant, a retail convenience store, a deli, and rental showers. The Travel Center will be open 24 hours a day seven days a week and anticipates employing 75 persons. The Travel Center anticipates serving 400 semi trucks and approximately 400 automobiles per day.

In addition to the annexation of the six parcels to the City of Orland, the project would require detachment from the Orland Rural Fire Protection District, which currently provides fire protection in the area. Once annexed, the six parcels would attach to the City of Orland Fire Department and fire protection for the area would be the responsibility of the City of Orland Fire Department.

ES3 PROJECT ALTERNATIVES SUMMARY

California Environmental Quality Act (CEQA) Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project that could feasibly attain the basic objectives of the project and avoid and/or lessen the environmental effects of the project. Further, CEQA Guidelines Section 15126.6(e) requires that a "No Project" alternative be evaluated in an EIR. Section 4.0, Project Alternatives, provides a detailed discussion and a qualitative analysis of three scenarios that include:

- **Alternative1 – No Project Alternative** – It is important to note that the No Project alternative does not necessarily mean the properties will remain in their undeveloped state. If no action is taken on the proposed project, it is reasonable to assume that another project would be proposed at some point in the future consistent with the General Plan and zoning designations. Both the Westside Annexation Area and the Pilot Flying J project site are currently under Glenn County jurisdiction. However, this area is within the City of Orland Planning Area and Sphere of Influence (SOI). Therefore, a reasonable assumption would be that the Westside Annexation Area and the Pilot Flying J site would, at some time in the future, be annexed to the City or developed within the county. As such, Alternative 1 assumes that the City of Orland General Plan land use designations are the land uses for the future.

  Based on this, for environmental analysis purposes, it is assumed that Alternative 1 has the potential to result in up to 501,596 square feet of new commercial uses and eight new residential units. However, the development of these potential new commercial and residential uses would result in the loss of three existing single-family homes, Eagles Hall, an existing gas station, and agricultural land.

- **Alternative 2 – Annexation of Pilot Flying J Project Only** – Alternative 2 would be the annexation of 9.2 acres by the City of Orland and construction of the proposed Pilot Flying J Travel Center. Alternative 2 would not include the five additional parcels proposed for annexation as part of the Westside Annexation Area. This alternative would allow the development of the Pilot Flying J Travel Center but not allow future development of the Westside Annexation Area within the City of Orland. Alternative 2 would be the development of Parcel A, as proposed, including the fueling facilities offering 10 diesel lanes, 12 gas lanes, and 2 RV lanes, the 12,964-square-foot commercial building, and other attributes of the Pilot Flying J project. Parcel B would also be annexed by the City and would be developed with approximately 44,000 square feet of commercial uses.

- **Alternative 3 – Reduced Project Development** – This alternative was developed to determine whether specific features of the proposed project could be changed to help reduce impacts specifically related to project size. Alternative 3 would include the five parcels and Parcel B of the Westside Annexation Area and the potential future development related to those parcels, as well as a Pilot Flying J Travel Center that is roughly 75 percent of the proposed Pilot Flying J project's size.

ES4 AREAS OF CONTROVERSY/ISSUES TO BE RESOLVED

The City of Orland was identified as the lead agency for the proposed project. In accordance with Section 15082 of the CEQA Guidelines, the City prepared and distributed a Notice of Preparation (NOP) for the proposed project that was circulated for public review on October 31, 2014. Concerns raised in response to the NOP were considered during the preparation of the EIR. A copy of each letter is provided in **Appendix 1.0** of this DEIR. Section 1.0, Introduction, provides a summary of issues and areas of concern related to the proposed project, as presented to the City by agencies and the public during the NOP review period. The complete text of the NOP and the NOP comments are included as **Appendix 1.0** to this Draft EIR.

ES5 SUMMARY OF ENVIRONMENTAL IMPACTS

Table ES-1 displays a summary of project impacts and proposed mitigation measures that would avoid or minimize potential impacts. In **Table ES-1**, the level of significance is indicated both before and after the implementation of each mitigation measure. For detailed discussions of all mitigation measures that would provide mitigation for each type of environmental impact addressed in this Draft EIR, refer to the appropriate environmental topic section (i.e., Sections 3.1 through 3.9).

Implementation of the proposed project is anticipated to result in the direct development of the Pilot Flying J Travel Center. Future indirect development of the Westside Annexation Area may result with implementation of the project as a result of annexation of this area by the City of Orland, although no development is proposed for this area at this time. This development, in combination with long-term region-wide growth and development, has the potential to generate environmental impacts in a number of areas, including direct impacts on air quality, biological resources, and cultural resources, all of which can be mitigated to a less than significant level. However, development of the project would result in significant and unavoidable impacts in the areas of noise and transportation.

Of the potential environmental impacts discussed in Section 3.0 of the DEIR, project impacts to noise and transportation and circulation are considered cumulatively considerable and significant and unavoidable. CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance.

ES6 AREAS OF NO IMPACT

The potential for the proposed project to result in certain impacts was not included in **Table ES-1** because the City of Orland determined that the proposed project would not result in impacts to several environmental issue areas. Section 3.10 provides the rationale for the elimination of these issue areas; a summary of that discussion is provided below.

- **Aesthetics** – Based on the lack of identified scenic views, the lack of a state-designated scenic highway, and the lighting requirements of the Municipal Code, the proposed project would not adversely affect daytime or nighttime views in the area.

- **Agricultural and Forest Resources** – The development of the Westside Annexation Area may result in impacts to agricultural resources, as one of the parcels has land considered Prime Farmland or Farmland of Statewide Importance. However, this parcel is prezoned as Open Space; therefore, agricultural uses can continue and not result in a loss of farmland. No development projects have been proposed for this parcel. If and when

such development is proposed for this parcel, a rezoning of the parcel will be required, which would initiate environmental review in order to comply with CEQA and City regulations. At such time, agricultural and forest resources impacts would be analyzed.

The Pilot Flying J Travel Center site has Glenn County zoning of Highway and Visitor Commercial and does not contain any active agricultural uses or forestland, nor does it support trees that could be commercially harvested. The California Department of Conservation's online Important Farmland Finder mapping program identifies the site as Farmland of Local Importance. This category of farmland does not meet the standard of significance presented in CEQA Appendix G. Appendix G identifies the loss of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be considered a significant impact.

- **Geology, Seismicity, and Soils** – The development of the Westside Annexation Area into commercial uses may result in impacts from geology, seismicity, and soils. However, at this time, no development projects have been proposed for this area. If and when such development is proposed, environmental review would be required to comply with building code regulations that are designed to protect structures geologic-related impacts. At such time, these impact areas would be analyzed.

  Because the proposed Pilot Flying J Travel center is located in an area determined to have a low chance of seismic hazard and all projects in Orland are required to comply with the seismic building standards of the California Building Code, the potential for impacts resulting from seismic activity (i.e., ground shaking, liquefaction, and landslides) is considered less than significant.

  The City requires a soils report in order to evaluate shrink-swell and liquefaction potential of proposed project sites and to implement measures to minimize unstable soil hazards.

  The proposed Pilot Flying J Travel Center would be required to prepare and comply with an approved stormwater pollution prevention plan (SWPPP). The flat topography or the site and compliance with this requirement would reduce potential erosion impacts to a less than significant level.

  The proposed Westside Annexation Area and the Pilot Flying J Travel Center is located in an area that is relatively flat, so landslides would not occur. There are no large bodies of water near the site and the site is not located near the ocean, so the possibility of seiches or tsunamis would be nonexistent. The future Westside Annexation Area development and Pilot Flying J Travel Center would be connected to the City's sewer system. No septic system would be used at the site. There would be no impact in this area.

- **Hydrology and Water Quality** – Any future development in the Westside Annexation Area and the proposed Pilot Flying J Travel Center would be required to prepare and comply with an approved SWPPP. Compliance with this requirement would reduce the potential water quality impacts to less than significant.

  Future potential development of the Westside Annexation Area and the proposed development of the Pilot Flying J Travel Center would increase the demand for groundwater in the city. The City has determined that current water supplies are adequate to serve this development, and the Travel Center would not result in the increase of groundwater pumping beyond the City's current estimates.

The project would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, the project would have a less than significant impact on groundwater supply or recharge.

According to FEMA Flood Insurance Rate Maps 06021C0165D and 0621C0400D, the areas with development potential are not located within a flood zone. As such, the potential for flooding impacts would be less than significant.

- **Mineral Resources** – According to the City of Orland General Plan Draft EIR, no mineral resource zones have been designated within the boundaries of the Orland Planning Area. Neither the City's existing General Plan nor the Glenn County General Plan identifies any mineral resources in the Planning Area.

- **Population and Housing** – The development potential of the Westside Annexation Area (44,000 square feet of commercial uses) may result in an increase of population as potential new employees and their families move to the area. However, this increase would not be substantial.

  The Pilot Flying J Travel Center would not increase the population or amount of housing in Orland. The Travel Center is the development of a fueling station and convenience store and would not produce residential units. Additionally, the Pilot Flying J site is currently vacant and therefore would not result in the displacement of persons or the removal of housing units.

  Public Services – Public services include fire protection, police protection, parks and recreation, and schools. While implementation of the proposed project may result in increased calls for both fire and police services, the increase in calls is not anticipated to contribute to the need for the construction or expansion of fire or police facilities. In terms of parks and schools, generally impacts in these areas are related to an increase in population from a residential development. Because the proposed Pilot Flying J Travel Center and the development potential within the Westside Annexation Area would be commercial developments, not residential, this use would not have an impact on parks and recreation, and school facilities. While the Pilot Flying J Travel Center is projected to employ 75 persons, these employees are anticipated to come from the surrounding areas and therefore the Travel Center would not increase the area's population. The Pilot Flying J would have no impact on public services.

- **Other Utilities** – Any new future development in Orland is required to comply with the City's storm drainage requirements, which have been implemented to decrease potential impacts to the storm drainage system. Other utilities, including natural gas, electrical, telephone, and cable services, would be extended to the area by the applicable utility company. Natural gas service and electricity for the area is provided by Pacific Gas and Electric Company (PG&E). Installation of drainage is proved by the City of Orland. The project is required to comply with all state, county, and city regulations for solid waste disposal. The addition of solid waste to the Glenn County Landfill resulting from development of the project would not increase the tonnage beyond the landfill's permitted amount or result in the closure of the landfill.

TABLE ES-1
SUMMARY OF IMPACTS AND MITIGATION MEASURES

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Air Quality				
Impact 3.1.1	The proposed project would not conflict with or obstruct implementation of the 2012 Air Quality Attainment Plan.	LS	None required.	LS
Impact 3.1.2	Construction activities such as clearing, excavation and grading operations, construction vehicle traffic, and wind blowing over exposed earth would generate exhaust emissions and fugitive particulate matter emissions that would temporarily affect local air quality for adjacent land uses.	PS	**MM 3.1.2** To reduce short-term air quality impacts attributable to the proposed project, the following measures shall be implemented during project construction: • During all construction activities, all diesel-fueled construction equipment, including but not limited to rubber-tired dozers, graders, scrapers, excavators, asphalt paving equipment, cranes, and tractors, shall be California Air Resources Board (CARB) Tier 3 Certified or better as set forth in Section 2423 of Title 13 of the California Code of Regulations and Part 89 of Title 40 of the Code of Federal Regulations. • All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. Equipment maintenance records shall be kept on-site and made available upon request by the City of Orland. • All material excavated, stockpiled, or graded shall be sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering shall occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.	LS

S – Significant CC – Cumulatively Considerable LS – Less Than Significant SU – Significant and Unavoidable NI – No Impact
PS – Potentially Significant LCC – Less than Cumulatively Considerable CS – Cumulative Significant

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		• All areas (including unpaved roads) with vehicle traffic shall be watered periodically or have dust palliatives applied for stabilization of dust emissions. • All on-site vehicles shall be limited to a speed of 15 miles per hour on unpaved roads. • All land clearing, grading, earth-moving, or excavation activities on the project site shall be suspended when sustained winds are expected to exceed 20 miles per hour. • All portions of the development site that have been stripped of vegetation by construction activities and left inactive for more than 10 days shall be seeded and/or watered until a suitable grass cover is established. • All trucks hauling dirt, sand, soil, or loose material shall be covered or shall maintain at least 2 feet of freeboard (i.e., minimum vertical distance between top of the load and the trailer) in accordance with the requirements of California Vehicle Code Section 23114. This provision will be enforced by local law enforcement agencies. • All material transported off-site shall be either sufficiently watered or securely covered to prevent a public nuisance. • Wheel washers shall be installed where project vehicles and/or equipment enter and/or exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed prior to each trip. • Prior to final occupancy, the applicant shall re-establish ground cover on the construction site through seeding and watering. • Off-road construction equipment shall not be left idling for periods longer than 5 minutes when not in use.	

S – Significant CC – Cumulatively Considerable LS – Less Than Significant SU – Significant and Unavoidable NI – No Impact
PS – Potentially Significant LCC – Less than Cumulatively Considerable CS – Cumulative Significant

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
			Timing/Implementation: *During the construction period* *Monitoring/Enforcement:* *City of Orland Planning Department*	
Impact 3.1.3	Project-generated operational emissions would not exceed applicable significance thresholds.	PS	**MM 3.1.3** To reduce operational air quality impacts attributable to the proposed project, the following measures shall be implemented during project operations: • Signage shall be posted stating the State-mandated prohibition of all project trucks idling in excess of 5 minutes under the Heavy-Duty Vehicle Idling Emission Reduction Program. • The applicant shall ensure that appropriately sized sidewalks are installed for pedestrian use on all adjacent roadways. • The applicant shall install employee bicycle parking facilities within 50 feet of the main entrance. At least one bicycle parking space for every 20 vehicle parking spaces shall be installed. Bicycle parking facilities should be easily accessible. • Electrical outlets shall be installed on the exterior walls of the proposed truck stop services building to promote the use of electric landscape maintenance equipment. *Timing/Implementation:* *Ongoing* *Monitoring/Enforcement:* *City of Orland Planning Department*	LS
Impact 3.1.4	Implementation of the project would not contribute to localized concentrations of mobile-source CO that would exceed applicable ambient air quality standards.	LS	None required.	LS

S – Significant CC – Cumulatively Considerable LS – Less Than Significant SU – Significant and Unavoidable NI – No Impact
PS – Potentially Significant LCC – Less than Cumulatively Considerable CS – Cumulative Significant

Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.1.5	Implementation of the proposed project would not result in increased exposure of existing sensitive land uses to construction-source pollutant concentrations that would exceed applicable standards.	LS	None required.	LS
Impact 3.1.6	Implementation of the proposed project would result in increased exposure of sensitive land uses to stationary or mobile-source pollutant concentrations; however, such pollutant exposure would not exceed applicable standards.	LS	None required.	LS
Impact 3.1.7	The proposed project would not include sources that could create objectionable odors affecting a substantial number of people or expose new residents to existing sources of odor.	NI	None required.	NI
Impact 3.1.8	The proposed project, in combination with cumulative development in the NSVAB, would not result in a cumulatively considerable net increase of criteria air pollutants for which the air basin is designated nonattainment.	LCC	None required.	LCC
Biological Resources				
Impact 3.2.1	Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, regulations, or by the CDFW or the USFWS.	PS	**MM 3.2.1a Swainson's Hawk Foraging Habitat.** Prior to issuance of grading permits, the applicant shall provide documentation to the City of Orland demonstrating that Swainson's hawk foraging habitat mitigation has been obtained at a ratio of 0.75 acre for each 1.00 acre of suitable foraging habitat developed. Suitable foraging habitat consists of row crops, forage crops, pasture, grasslands, or fallow fields that would be affected by construction activities. The applicant shall mitigate for loss of Swainson's hawk foraging habitat through (1) payment of an in-lieu fee for off-site preservation of foraging habitat to a resource agency or a	LS

S – Significant CC – Cumulatively Considerable LS – Less Than Significant SU – Significant and Unavoidable NI – No Impact
PS – Potentially Significant LCC – Less than Cumulatively Considerable CS – Cumulative Significant

Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		third-party organization acceptable to a resource agency, or (2) acquisition of an irrevocable instrument (e.g., deed restriction or easement) for preservation of foraging habitat on a property that provides habitat of equal or greater quality. *Timing/Implementation:* *Prior to construction activities* *Enforcement/Monitoring:* *City of Orland Planning Department* **MM 3.2.1b Migratory Birds.** If clearing and/or construction activities would occur during the bird nesting season (February 15–August 15), preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within 14 days of construction initiation. Preconstruction surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the project area and a 200-foot buffer. If no active nests are found, no further mitigation is required. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days. If active nest sites are identified within 200 of project activities, the applicant shall impose an exclusionary buffer for all active nest sites prior to commencement of any project-related activities to avoid construction- or access-related disturbances to nesting birds. An exclusionary buffer constitutes an area where project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur and shall be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within the exclusionary buffer and the size (i.e., 100 feet) of exclusionary buffers may be adjusted through consultation with the City of Orland.	

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
			Timing/Implementation: *Reference to this requirement and to the MBTA will be included in the construction specifications. Preconstruction nest surveys will be conducted prior to the initiation of construction activities, as applicable.* *Enforcement/Monitoring:* *City of Orland Planning Department*	
Impact 3.2.2	Implementation of project-related activities will not result in the disturbance, degradation, and/or removal of riparian habitat or sensitive natural communities.	NI	None required.	NI
Impact 3.2.3	Implementation of project-related activities could result in the disturbance, degradation, and/or removal of federally protected wetlands.	PS	**MM 3.2.3 No Net Loss of Federally Protected Waters.** For every acre of ditch permanently or temporarily affected by the proposed project, the project applicant shall replace the affected acreage at a minimum 1:1 ratio or another approved ratio as determined by the USACE, CDFW, and/or RWQCB. Impacts shall be offset through the restoration and relocation of ditches within the project area, through purchase of credits, or payment of an in-lieu fee. *Timing/Implementation:* *Prior to construction activities* *Enforcement/Monitoring:* *City of Orland Planning Department*	LS
Impact 3.2.4	Implementation of project-related activities will not adversely affect the movement of native resident or migratory fish or wildlife species or established migratory corridors.	NI	None required.	NI

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.2.5	Implementation of the proposed project is not expected to conflict with any local policies or ordinances protecting biological resources.	NI	None required.	NI
Impact 3.2.6	Implementation of project-related activities would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or any adopted biological resources recovery or conservation plan of any federal or state agency.	NI	None required.	NI
Impact 3.2.7	The proposed project in combination with other reasonably foreseeable projects could result in mortality and loss of habitat for special-status species, wetlands, and waters of the United States.	CC	Implementation of mitigation measures **MM 3.2.1a, MM 3.2.1b**, and **MM 3.2.3** described above will reduce the proposed project's impact.	LCC
Cultural Resources				
Impact 3.3.1	Unanticipated and accidental archaeological discoveries are possible during project implementation, especially during excavation, and have the potential to impact unique archaeological resources.	PS	**MM 3.3.1** If any prehistoric and/or historic resources or other indications of cultural resources are found during future development of the site, all work in the immediate vicinity of the find must stop and the City of Orland Planning Department shall be immediately notified. An archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be retained to evaluate the finds and recommend appropriate mitigation measures. *Timing/Implementation:* *During grading and construction activities* *Enforcement/Monitoring:* *City of Orland Planning Department; project contractor*	LS
Impact 3.3.2	No known paleontological resources exist within the project area. Regardless, unanticipated and accidental paleontological discoveries are possible during project implementation, especially excavation, and have the potential to impact unique paleontological resources.	PS	**MM 3.3.2** If any paleontological resources are found during future development of the site, all work in the immediate vicinity of the find must stop and the City of Orland Planning Department shall be immediately notified. A qualified paleontologist (i.e., one with a graduate degree in paleontology, geology, or a related field and having	LS

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
			demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California) shall be retained to evaluate the finds and recommend appropriate mitigation measures. *Timing/Implementation:* *During grading and construction activities* *Enforcement/Monitoring:* *City of Orland Planning Department; project contractor*	
Impact 3.3.3	No human remains have been identified on the project site. Regardless, unanticipated discoveries of human remains are possible during project implementation, especially excavation.	PS	**MM 3.3.3** If human remains are discovered during future development of the site, all work must stop in the immediate vicinity of the find and the Glenn County Coroner shall be notified, per California Health and Safety Code Section 7050.5. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed. *Timing/Implementation:* *During future grading and construction activities* *Enforcement/Monitoring:* *City of Orland Planning Department; project contractor*	LS
Impact 3.3.4	Implementation of the proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to cultural resources (i.e., prehistoric sites, historic sites, isolated artifacts and features) and human remains. No significant resources have been identified.	LCC	None required.	LCC
Impact 3.3.5	Implementation of the proposed project would not cause significant impacts to any paleontological resources. Therefore, when considered with any foreseeable development in the project vicinity, the project would not result in cumulative impacts to paleontological resources.	LCC	None required.	LCC

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Greenhouse Gases and Climate Change				
Impact 3.4.1	Implementation of the proposed project will result in greenhouse gas emissions that would further contribute to significant impacts on the environment.	CC	None required.	LCC
Hazards and Hazardous Materials				
Impact 3.5.1	Implementation of the proposed project would involve limited transport, use, storage, and disposal of hazardous materials during construction and operation.	LS	None required.	LS
Impact 3.5.2	Implementation of the proposed project would not result in the accidental release of hazardous materials into the environment.	LS	None required.	LS
Impact 3.5.3	Portions of the Westside Annexation Area are currently in agricultural use. The proposed Pilot Flying J project site may have been for agricultural production during the past. Agricultural practices commonly use herbicides and pesticides that are toxic to humans, the residuals of which may still occur on or adjacent to the project site. This use may be hazardous. However time and existing requirements reduce this impact.	LS	None required.	LS
Impact 3.5.4	The project site is not located within one-quarter mile of an existing or proposed school site.	NI	None required.	NI
Impact 3.5.5	The project site has not been listed as a hazardous material release site.	NI	None required.	NI
Impact 3.5.6	The project site would not result in a safety hazard for people within an airport land use plan, nor would it result in a safety hazard in the vicinity of a private airstrip.	NI	None required.	NI

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Impact 3.5.7	There are no private airports in the vicinity of the proposed project site.	NI	None required.	NI
Impact 3.5.8	The proposed project would not substantially impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	None required.	LS
Impact 3.5.9	The project site is not designated by the California Department of Forestry and Fire Protection (Cal Fire) as a Fire Hazard Severity Zone and is not located in proximity to any wildlands.	LS	None required.	LS
Impact 3.5.10	Implementation of the proposed project in addition to cumulative development associated with the proposed project may result in cumulative hazardous risk impacts.	LCC	None required.	LCC
Land Use				
Impact 3.6.1	The proposed project would not physically divide an established community.	NI	None required.	NI
Impact 3.6.2	The proposed Westside Annexation Area and Pilot Flying J project is consistent with the existing General Plan land use designation and proposed prezoning for the project site.	NI	None required.	NI
Impact 3.6.3	The Westside Annexation Area and the Pilot Flying J project site are not within the boundaries of or otherwise subject to any habitat conservation plans or natural community conservation plans.	NI	None required.	NI
Impact 3.6.4	The proposed project could lead to additional development of commercial uses along Newville Road and in the vicinity.	NI	None required.	NI

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Noise				
Impact 3.7.1	Operation of the proposed project would generate increased local traffic volumes that would cause a substantial permanent increase in ambient noise levels in the project vicinity.	PS	No feasible mitigation available.	SU
Impact 3.7.2	Implementation of the proposed project would not result in on-site noise levels that would exceed the City's applicable noise standards. However, the project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to on-site noise sources.	PS	No feasible mitigation available.	SU
Impact 3.7.3	Groundborne vibration levels associated with short-term construction and long-term operational activities would not exceed applicable groundborne vibration criterion at nearby land uses.	LS	None required.	LS
Impact 3.7.4	Activities associated with project construction would not result in the exposure of persons to or generation of noise levels in excess of the City of Orland's noise standards, as short-term construction noise is exempt from all noise level standards and construction is limited to daytime hours.	LS	None required.	LS
Impact 3.7.5	Long-term operation of the proposed project would result in a substantial contribution to cumulative noise levels.	CC	No feasible mitigation available.	CC and SU

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Transportation and Circulation				
Impact 3.8.1	The proposed project would result in significant increases in level of service at the study intersections.	PS	**MM 3.8.1** Prior to project occupancy, the project applicant shall install an all-way stop at the Newville Road/County Road HH intersection. The intersection is projected to operate with a level of service that satisfies the City's LOS D minimum with the installation of an all-way stop. *Timing/Implementation: Prior to occupancy* *Enforcement/Monitoring: City of Orland Planning Department*	LS
Impact 3.8.2	The proposed project would not result in a change of air traffic patterns that lead to substantial safety risks.	NI	None required.	NI
Impact 3.8.3	Implementation of the proposed project may result in increased traffic hazards due to the additional of large volumes of automobile and truck traffic.	PS	**MM 3.8.3a** Prior to project occupancy, the project applicant shall be responsible for widening Newville Road to provide left turn lanes to the satisfaction of the City Engineer and City of Orland roadway standards. *Timing/Implementation: Prior to occupancy* *Enforcement/Monitoring: City of Orland Engineer, City of Orland Planning Department* **MM 3.8.3b** Prior to project occupancy, the project applicant shall be responsible for widening County Road HH and the Newville Road/County Road HH and County Road HH/County Road 13 intersections to accommodate the turning requirements of STAA trucks. These improvements may result in the creation of a separate northbound right turn lane on County Road HH approaching Newville Road and/or a separate southbound left turn lane on County Road HH approaching County Road 13. These improvements shall be designed and constructed to the satisfaction of the City Engineer.	LS

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
			Timing/Implementation: *Prior to occupancy* *Enforcement/Monitoring:* *City of Orland Engineer, City of Orland Planning Department* **MM 3.8.3c** Prior to project occupancy, the project applicant shall incorporate a designated pedestrian crossing into improvements to the Newville Road/County Road HH intersection. *Timing/Implementation:* *Prior to occupancy* *Enforcement/Monitoring:* *City of Orland Engineer, City of Orland Planning Department*	
Impact 3.8.4	The proposed project would provide adequate emergency access.	NI	None required.	NI
Impact 3.8.5	The proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).	NI	None required.	NI
Impact 3.8.6	Implementation of the proposed project, along with other traffic generated by existing and future development in the project area in Year 2028, would increase traffic in the project area.	CC	**MM 3.8.6a** The project applicant shall contribute its fair share to the cost of installing a traffic signal. While an all-way stop would deliver an adequate level of service, traffic signal warrants are projected to be satisfied at this intersection. Signalization would result in LOS C conditions, which satisfy the City's minimum LOS D standard. This improvement is identified in the City General Plan EIR and is in the City's traffic impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**. *Timing/Implementation:* *Prior to occupancy* *Enforcement/Monitoring:* *City of Orland Engineer, City of Orland Planning Department*	CC and SU

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		MM 3.8.6b The project applicant shall contribute its fair share to the cost of widening the off-ramp to provide a separate right turn lane and installing a traffic signal. This improvement would result in LOS B conditions, which satisfy the City's minimum LOS D standard. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. A traffic signal is identified in the City General Plan EIR and is in the City's traffic impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**. *Timing/Implementation: Prior to occupancy* *Enforcement/Monitoring: City of Orland Engineer, City of Orland Planning Department* **MM 3.8.6c** The project applicant shall contribute its fair share to the cost of installing a traffic signal. This improvement would result in LOS B conditions, which satisfy the City's minimum LOS D standard. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. This improvement is identified in the City General Plan EIR and is in the City's traffic impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**. *Timing/Implementation: Prior to occupancy* *Enforcement/Monitoring: City of Orland Engineer, City of*	

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		Orland Planning Department **MM 3.8.6d** The project applicant shall contribute its fair share to the cost of widening eastbound Newville Road between County Road HH and the southbound I-5 on-ramp to provide an auxiliary lane that continues onto the on-ramp. With this improvement, the segment level of service would be LOS B, which satisfies the City's minimum LOS C standard. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. This improvement is not identified in the General Plan EIR and is not currently in the City's traffic impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**. *Timing/Implementation:* *Prior to occupancy* *Enforcement/Monitoring:* *City of Orland Engineer, City of Orland Planning Department* **MM 3.8.6e** The project applicant shall contribute its fair share to the cost of improving County Road HH to a major collector or arterial street standard. The project applicant shall improve the east side of County Road HH to a major collector-arterial standard to the satisfaction of the City Engineer as its fair share contribution to the cost of overall street improvements. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**. *Timing/Implementation:* *Prior to occupancy* *Enforcement/Monitoring:* *City of Orland Engineer, City of Orland Planning Department*	

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Impact	Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
		MM 3.8.6f The project applicant shall contribute its fair share to the cost of coordinating traffic signals on Newville Road. To deliver LOS C conditions, it would be necessary to widen SR 32 to provide additional lanes on the crossing structure. However, this improvement is not included in the General Plan EIR or the City's traffic impact mitigation fee program. Widening the structure is not identified in the SR 32 TCR. Thus, there is no identified funding mechanism for a project of this magnitude and it is unreasonable to expect that local development in Orland would be capable of funding this improvement. As noted earlier, short roadway segments can carry high traffic volumes but operate adequately when the intersections have the capacity to handle peak-period traffic volumes at a good level of service. This is the case with the intersections on SR 32, which are expected to operate at LOS C or better with identified improvements. Coordinating the operation of the study area signals with the operation of the signals farther east on SR 32 will be appropriate. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**. *Timing/Implementation:* *Prior to occupancy* *Enforcement/Monitoring:* *City of Orland Engineer, City of Orland Planning Department*	

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Impact		Level of Significance Without Mitigation	Mitigation Measure	Resulting Level of Significance
Utilities				
Impact 3.9.1.1	Implementation of the proposed project would result in the generation of wastewater, which would require treatment at the Orland Wastewater Collection and Treatment Facility. The existing treatment plant has adequate capacity.	LS	None required.	LS
Impact 3.9.1.2	Implementation of the proposed project will result in future development that would increase the demand for conveyance and treatment of wastewater and require the connection of the Pilot Flying J project to existing sewer mains in order to serve the project.	LS	None required.	LS
Impact 3.9.1.3	Implementation of the proposed project, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the cumulative setting, would contribute to the cumulative demand for wastewater service.	LCC	None required.	LCC
Impact 3.9.2.1	Implementation of the proposed project would result in an increased demand for water supply in the city. However, adequate water supply sources exist.	LS	None required.	LS
Impact 3.9.2.2	Implementation of the proposed project would increase demand for water service in the area and thus require additional water supply infrastructure that may result in a physical impact to the environment.	LS	None required.	LS
Impact 3.9.2.3	Implementation of the proposed project, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the cumulative setting, would increase the cumulative demand for water supplies and related infrastructure.	LCC	None required.	LCC

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1.0 Introduction

This Draft Environmental Impact Report (Draft EIR; DEIR) was prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) and the CEQA Guidelines. An environmental impact report (EIR) is described in CEQA Guidelines Section 15121(a) as a public informational document that analyzes the significant environmental effects of a project, identifies ways to minimize the significant impacts, and describes reasonable alternatives to the project. Public agencies are charged with the duty to consider and minimize environmental impacts of proposed development, where feasible, and obligated to balance a variety of public objectives including economic, environmental, and social factors. CEQA requires that an EIR be prepared by the agency with primary responsibility over the project (the lead agency).

1.1 PURPOSE OF THE EIR

CEQA requires the preparation of an EIR prior to approving any project that may have a significant effect on the environment. Therefore, pursuant to CEQA, the City of Orland (City), acting as the lead agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies, as relevant, with information about the potential environmental effects of the proposed Pilot Flying J Travel Center and Westside Annexation Area project (proposed project; project).

For the purposes of CEQA, the term *project* refers to the whole of an action that has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]). With respect to the proposed project, the City has determined that adoption and implementation of the proposed Pilot Flying J Travel Center and Westside Annexation Area is a project within the CEQA definition.

1.2 KNOWN TRUSTEE AND RESPONSIBLE AGENCIES

For the purpose of CEQA, the term *trustee agency* means a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of California. In CEQA, the term *responsible agency* includes all public agencies other than the lead agency that may have discretionary actions associated with the proposed project. The following agencies have been identified as potential responsible or trustee agencies:

- US Army Corps of Engineers
- California Department of Transportation (Caltrans), District 5
- California Department of Fish and Wildlife, Region 2
- State Water Resources Control Board
- Glenn County Air Pollution Control District
- Regional Water Quality Control Board, Region 5
- City of Orland
- County of Glenn

1.3 TYPE OF DOCUMENT

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a combination of both a program EIR pursuant to CEQA Guidelines Section 15168 and a project EIR pursuant to CEQA Guidelines Section 15161.

The analysis associated with the Westside Annexation Area is a program EIR. Program EIRs focus primarily on a series of actions that can be characterized as one large project and are either:

(1) Geographically,

(2) As logical parts in the chain of contemplated actions,

(3) In connection with issuance of rules, regulations, plans or other general criteria to govern the conduct of a continuing program, or

(4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

The Pilot Flying J Travel Center portion of the proposed project is analyzed as a project EIR. Project EIRs examine the environmental impacts of a specific development project such as the Pilot Flying J Travel Center. Project EIRs focus primarily on the changes in the environment that would result from the development project. Project EIRs examine all phases of the project including planning, construction, and operation.

1.4 INTENDED USE OF THE EIR

This Draft EIR, in accordance with CEQA Guidelines Section 15126, will be used as the primary environmental document to evaluate all subsequent planning and permitting actions associated with the project. These actions include, but are not limited to, the following:

- Approval of one or more development agreements designed to allow construction and operation of a Travel Center and to ensure implementation of the proposed project.
- Approval of one or more parcel maps designed to allow development of the multiple properties.
- Site plan review and approval of specific development proposals pursuant to the review process described in the development agreement.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, identification of significant irreversible environmental impacts, and growth-inducing and cumulative impacts. The environmental issues addressed in this Draft EIR were established through review of environmental documentation developed for the site, environmental documentation for nearby projects, and responses to the Notice of Preparation. Based on these comments, agency consultation, and review of the project application, the City determined the scope for this Draft EIR.

This Draft EIR is organized in the following manner:

ES. – EXECUTIVE SUMMARY

This section provides a project narrative and identifies environmental impacts and mitigation measures in a summary matrix consistent with CEQA Guidelines Section 15123.

SECTION 1.0 – INTRODUCTION

Section 1.0 provides an introduction and overview of the EIR.

SECTION 2.0 – PROJECT DESCRIPTION

This section provides a detailed description of the proposed project, including intended objectives, background information, and physical and technical characteristics.

SECTION 3.0 – ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

Section 3.0 contains an analysis of environmental topic areas as identified below. Each subsection contains a description of the existing setting of the project area and of the regulatory environment, identifies standards of significance, and identifies project-related and cumulative impacts and recommends mitigation measures.

The major environmental topics are addressed in the following sections:

3.1 Air Quality
3.2 Biological Resources
3.3 Cultural Resources
3.4 Greenhouse Gases and Climate Change
3.5 Hazards and Hazardous Materials
3.6 Land Use
3.7 Noise
3.8 Transportation and Circulation
3.9 Utilities
3.10 Effects Determined Not to Be Significant

SECTION 4.0 – PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the project which could feasibly attain the basic objectives of the project and avoid and/or substantially lessen any of the significant effects of the project. This section discusses alternatives to the proposed project, including the CEQA mandatory "No Project" alternative, that are intended to avoid or reduce significant environmental impacts of the proposed project.

SECTION 5.0 – OTHER CEQA ANALYSIS

This section contains discussions and analysis of various topical issues mandated by CEQA. These topics include significant environmental effects that cannot be avoided if the project is implemented, as well as growth-inducing impacts.

SECTION 6.0 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR by name, title, and company or agency affiliation.

SECTION 7.0 – ABBREVIATIONS

This section defines abbreviations used throughout the EIR.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as all technical material prepared to support the analysis.

1.6 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR involves the following procedural steps:

NOTICE OF PREPARATION AND INITIAL STUDY

In accordance with Section 15082 of the CEQA Guidelines, the City prepared a Notice of Preparation (NOP) of an EIR for the project and circulated the document on October 31, 2014. The 30-day NOP comment period closed on December 1, 2014. The NOP was circulated to the public, local, state, and federal agencies, and other interested parties to solicit comments on the proposed project. A scoping meeting was held on November 20, 2014, to solicit input from interested agencies and the public. A representative from the City of Orland attended. Concerns raised during the scoping meeting included trucks using County Road HH south of the Pilot Flying J Travel Center site to return to Interstate 5 and sewer drainage issues on County Road HH, which would be exacerbated with implementation of the project. The City received three written comment letters during the NOP review period. Those comments are summarized in **Table 1.0-1**. Concerns raised in response to the NOP and at the scoping meeting were considered during preparation of the Draft EIR. The NOP and comments from interested parties are included as **Appendix 1.0**.

TABLE 1.0-1
LIST OF NOP COMMENT LETTERS

Interested Party/Agency	Date	Summary of Comment(s)
Christy Leighton, Glenn Local Agency Formation Commission	November 5, 2014	• The project description should include both the annexation to the City of Orland and the detachment from the Orland Rural Fire Protection District. • The area of annexation should include all roads and road right-of-way for County Road 200, County Road HH, and County Road 13 adjacent to or within the proposed annexation.
Katy Sanchez, Native American Heritage Commission (NAHC)	November 6, 2014	• The NAHC recommends contacting the appropriate regional archaeological Information Center for a records search. • If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey. • Contact the NAHC for a Sacred Land File Check and a list of the appropriate Native American contacts for consultation. • The lack of surface evidence of archeological resources does not preclude their subsurface existence and lead agencies should include mitigation for unknown archeological resources, cultural resources, and Native American human remains.
Susan Zanchi, California Department of Transportation (Caltrans)	November 21, 2014	• Caltrans recommends the use of the Caltrans Guide for the Preparation of Traffic Impact Studies in determining if and when a traffic impact study is necessary. • Any impacts to Caltrans drainage facilities should be minimized through project drainage mitigation measures. Caltrans encourages the submittal of drainage plans and studies to evaluate how the project may affect Caltrans facilities.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives. Upon completion of the Draft EIR, the City will file the Notice of Completion with the Governor's Office of Planning and Research to begin the public review period (Public Resources Code Section 21161).

PUBLIC NOTICE/PUBLIC REVIEW

Concurrent with the Notice of Completion, the City will provide public notice of the availability of the Draft EIR for public review and will invite comment from the general public, agencies, organizations, and other interested parties. Public comment on the Draft EIR will be accepted in written form via common carrier or in electronic mail (e-mail) form. Public comment will also be accepted orally at a public hearing to be held April 16, 2015, between 4:00 PM and 5:00 PM as well as between 6:00 PM and 7:00 PM at the Carnegie Center (912 Third Street, Orland, California). All comments or questions regarding the Draft EIR should be addressed to:

Scott Friend, Contract Planner
CITY OF ORLAND
815 Fourth Street
Orland, CA 95963
cityplanner@cityoforland.com

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and contain any revisions to the Draft EIR.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Orland City Council will review and consider the Final EIR and may certify the Final EIR if it finds that the EIR is adequate and complete. The rule of adequacy generally holds that the EIR can be certified if it shows a good faith effort at full disclosure of environmental information and provides sufficient analysis to allow decisions to be made regarding the project in contemplation of its environmental consequences. Note that certification of the EIR does not automatically result in project approval.

Upon review and consideration of the Final EIR, the City Council may take action to approve, revise, or reject the proposed project. Any decision to approve the project will be accompanied by written findings in accordance with CEQA Guidelines Section 15091. If applicable, the City Council may approve the project even with significant and unavoidable environmental impacts by adopting a statement of overriding considerations as outlined in CEQA Guidelines Section 15093. A Mitigation Monitoring and Reporting Program, as described below, would also be adopted for mitigation measures that have been incorporated into or imposed upon the project to reduce or avoid significant effects on the environment. The MMRP will be designed to ensure that these measures are carried out during project implementation.

MITIGATION MONITORING AND REPORTING PROGRAM

CEQA Section 21081.6(a) requires lead agencies to adopt a Mitigation Monitoring and Reporting Program (MMRP) to describe measures that have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The specific reporting or monitoring program required by CEQA is not required to be included in the EIR; however, it will be presented to the City Council for adoption. Throughout the EIR, mitigation measures have been clearly identified and presented in language that will facilitate establishment of an MMRP. Any mitigation measures adopted by the City as conditions for approval of the project will be included in an MMRP to verify compliance.

2.0 Project Description

2.1 PROJECT SETTING

REGIONAL SETTING

Orland is located in Glenn County in Northern California's Sacramento Valley, approximately 100 miles north of Sacramento. The city is located approximately 16 miles north of Willows and approximately 22 miles west of Chico. Interstate 5 (I-5) passes along the western boundary of Orland, while State Route (SR) 32 passes through the center of the city on its way east toward Chico (see **Figure 2.0-1**, Regional Vicinity, and **Figure 2.0-2**, Project Location).

SURROUNDING LAND USES

The project proposes the annexation of 19.63 acres just west of Interstate 5 and south of Newville Road (with the exception of 0.44 acre of land that extends north of Newville Road). As described in detail below, 7.5 acres of the proposed annexation consists of a specific development proposal of a Pilot Flying J Travel Center. The remaining 12.13 acres are to remain as currently existing and no development of this acreage has been proposed as a part of this project. These 12.13 acres are known as the Westside Annexation Area and while no development is proposed in this area, a theoretical development potential has been assumed for this EIR based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed as further described below.

Land uses surrounding the proposed Westside Annexation Area and the Pilot Flying J Travel Center site include agriculture, commercial, and residential uses. Specifically, the Pilot Flying J Travel Center site is bound by Intestate 5 to the east; the Newville Road/Interstate 5 interchange to the north with the commercial uses of a gas station, fast-food and sit-down restaurants, and offices beyond; County Road 13 to the south with a single-family home, pastureland, and vacant land beyond; and County Road HH to the west with a hand-cultivated agricultural site and an occupied single-family dwelling beyond. The hand-cultivated agricultural site and single-family dwelling to the west are also within the Westside Annexation Area. Northwest of the Pilot Flying J site, across Newville Road, is a mobile home park. The Eagles Hall is also northwest of the Pilot Flying J site yet is within the Westside Annexation Area. To the west of the Westside Annexation Area is an active orchard surrounding a rural single-family residential dwelling and a developed single-family dwelling set back from, yet fronting, Newville Road.

Those areas north of the Westside Annexation Area and Pilot Flying J site are within the Orland City Limits and Sphere of Influence and have the City General Plan land use designation of Commercial for the commercial land uses and High Density Residential for the mobile home park. The Westside Annexation Area is directly west of the Pilot Flying J site and has a City General Plan land use designation of Commercial. Lands to the south of the Westside Annexation Area and Pilot Flying J site are in the unincorporated area of Glenn County and designated Industrial by the City General Plan.

2.2 PROJECT OBJECTIVES

Consistent with California Environmental Quality Act (CEQA) Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the project are to be discussed. The following is a statement of the project objectives based on information provided by the project applicant:

- To provide a logical area of annexation that is or can be served by existing City infrastructure.

- To develop a multi-bay travel plaza on 7.5 acres within the City of Orland.
- To develop the project in a location that is immediately adjacent to I-5 and SR 32.
- To provide a multi-bay travel plaza that is clearly visible to travelers on I-5 and those entering I-5 from SR 32.
- To provide a multi-bay travel plaza in a location that abuts a full interchange with on- and off-ramps able to accommodate tractor trailers for easy access to and from the project.
- To develop a project that will allow efficient circulation to and from, both north- and southbound, I-5, SR 32, and downtown Orland.
- To develop a project that will serve professional truck drivers, the travelling public, and local residents of Orland with a fueling facility, convenience store, and restaurant.

2.3 PROJECT DESCRIPTION

PROJECT COMPONENTS

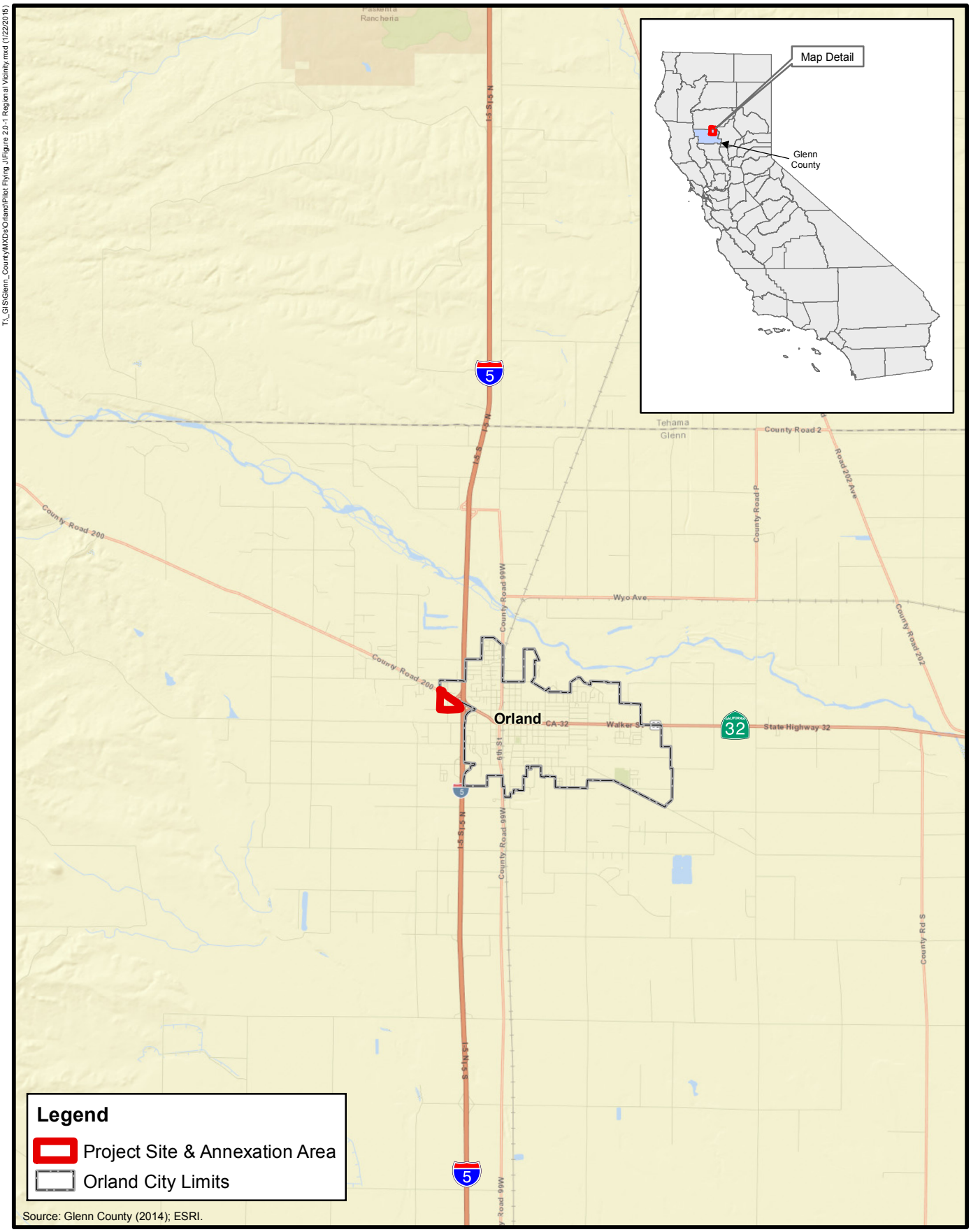
The proposed project includes two components: (1) the annexation by the City of Orland of a total of six parcels and roadways within the area of annexation, and (2) the development of the proposed Pilot Flying J Travel Center on 7.5 acres of one of these parcels (APN 045-170-005). While all of the parcels would be annexed by the City, for the purposes in this EIR analysis, the 7.5-acre Pilot Flying J Travel Center project component (referred to as "Parcel A") is analyzed separately from the 12.13 acres of the area described as the Westside Annexation Area. The 12.13-acre Westside Annexation Area consists of a total of six parcels, including 1.7 acres (referred to as "Parcel B") adjacent to the proposed 7.5-acre Pilot Flying J Travel Center site. Other than development of the Pilot Flying J Travel Center, all existing uses in the area to be annexed by the City are to remain as currently existing, and no development of these areas has been proposed as part of this project. However, in order to ascertain the potential for environmental impact resulting from annexation of the Westside Annexation Area, a theoretical development potential has been assumed based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed. The entirety of the new development potential of the Westside Annexation Area is located on the 1.7-acre Parcel B. This development potential is shown in **Table 2.0-1**.

In addition to the annexation of the six parcels to the City of Orland, the project would require detachment from the Orland Rural Fire Protection District, which provides fire protection in the area. Once annexed, fire protection for the area would be the responsibility of the City of Orland Fire Department.

AREA OF ANNEXATION

As discussed previously, the actual annexation to the city would include six parcels (APNs 045-170-005 [Pilot Flying J Travel Center location known as Parcel A], 045-140-003, 045-140-010, 045-140-011, 045-140-012, and 045-170-003). The total area of annexation is 19.63 acres. However, as stated previously, the 7.5-acre portion of APN 045-170-005 is analyzed separately in this EIR as the Pilot Flying J Travel Center project. This is done because the Pilot Flying J Travel Center site has specific development proposed, while the remaining parcels do not. Therefore, for discussions referring to project annexations in this EIR, the Westside Annexation Area is composed of six parcels and a total of 12.13 acres for this analysis, while the Pilot Flying J Travel Center project is analyzed separately.

T:_GIS\Glenn_County\MXDs\Orland\Pilot Flying J\Figure 2.0-1 Regional Vicinity.mxd (1/22/2015)



Source: Glenn County (2014); ESRI.

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Figure 2.0-1
Regional Vicinity

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T:_GIS\Glenn_County\MXDs\Orland\Pilot Flying J\Project Location.mxd (10/30/2014)

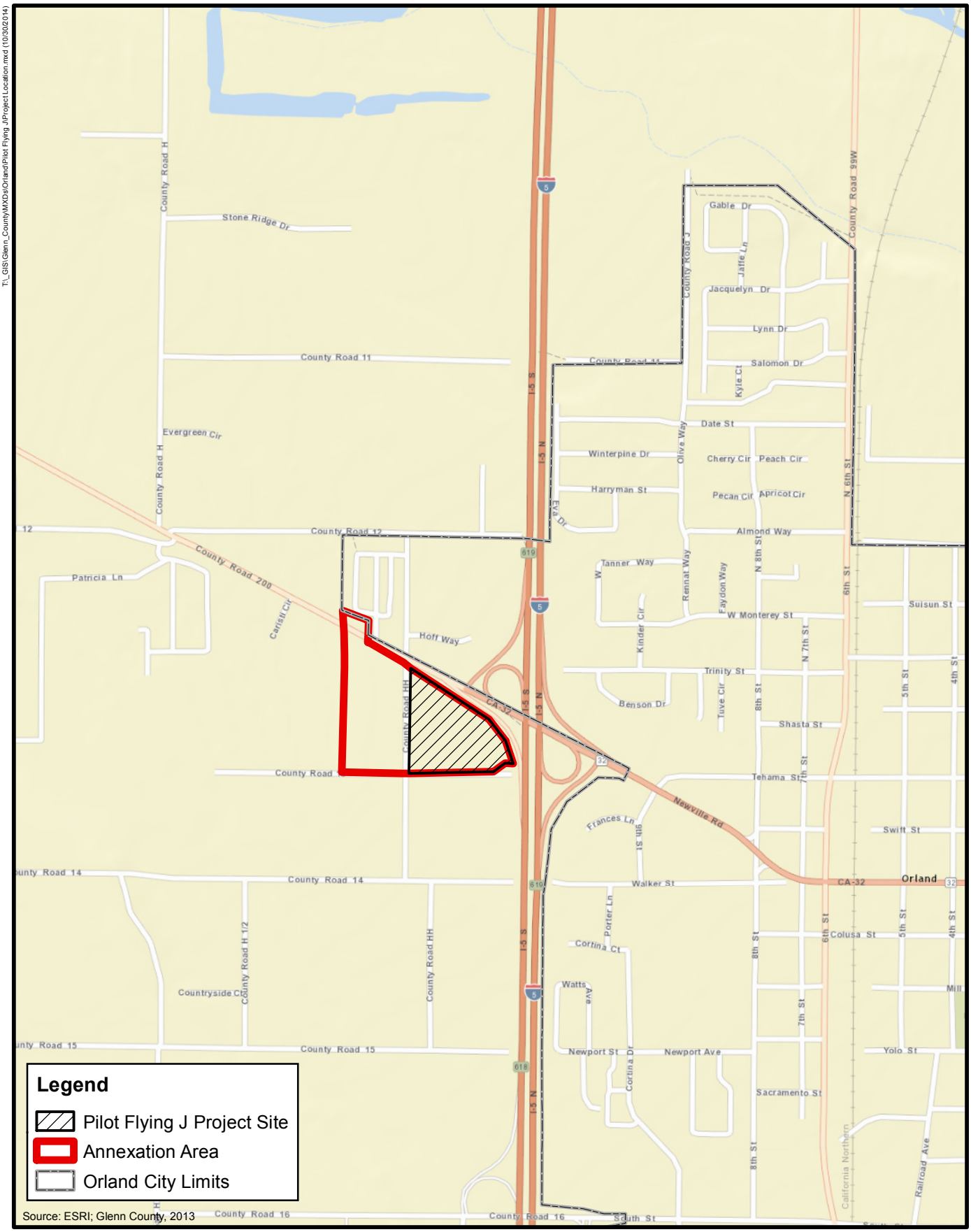

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Figure 2.0-2

Project Location

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Table 2.0-1 identifies the current uses and the General Plan land use designations for Glenn County and the City of Orland for the Westside Annexation Area properties as well as for the Pilot Flying J Travel Center site. **Table 2.0-1** also shows the assumed use of each of the annexation parcels. These assumed uses have been determined by considering the existing use, what the proposed prezoning of the parcel will be, and the realistic potential for a change in use of each parcel. If the existing use is an allowed use under the proposed zoning district, then this use is assumed to remain the same, with the exception of APN 045-170-005, which is vacant land and therefore the existing use is easily developable. For environmental analysis purposes, it is assumed that the Westside Annexation Area has the potential to result in 44,000 square feet of new commercial uses. All other parcels are to remain as what currently exists on the parcel. **Figures 2.0-3a** and **2.0-3b** provide an illustration of the proposed Westside Annexation Area. The Pilot Flying J Travel Center project is discussed in detail later in this document.

TABLE 2.0-1
AREA OF ANNEXATION GENERAL PLAN/PREZONING DESIGNATIONS

APN	Existing Use	Acreage	Land Use Designation			Potential Assumed Use[1]
			Glenn County General Plan	City of Orland		
				General Plan	Prezoning	
Westside Annexation Area						
045-140-003	Gas station/ convenience store	0.44	Suburban Residential	Commercial[1]	Community Commercial (C-2)	Existing use to remain
045-140-010	Eagles Hall	0.40	Service Commercial	Commercial	Community Commercial (C-2)	Existing use to remain
045-140-011	Single-family home	0.50	Service Commercial	Commercial	Community Commercial (C-2)	Existing use to remain
045-140-012	Single-family home	0.59	Service Commercial	Commercial	Community Commercial (C-2)	Existing use to remain
045-170-003	Agriculture, single-family home	8.50	Suburban Residential	Commercial	Open Space (O-S)	Existing use to remain
045-170-005[3] (Parcel B)	Vacant land	1.70	Highway and Visitor Service Commercial	Commercial	Commercial Highway (C-H)	44,000 sq. ft. commercial[2]
Total		12.13	Three dwelling units, Eagles Hall, gas station/convenience store, and 44,000 square feet of new commercial			
Pilot Flying J Travel Center Project						
045-170-005[3] (Parcel A)	Vacant land	7.50	Highway and Visitor Service Commercial	Commercial	Commercial Highway (C-H)	Pilot Flying J Travel Center

Notes:
1. This parcel will require a General Plan Amendment from High Density Residential to Commercial.
2. New assumed use building size is based on a maximum building coverage of 60 percent as defined by the Orland General Plan for the Commercial land use designation.
3. This parcel will be split: 7.5 acres to the Pilot Flying J Travel Center project (Parcel A) and a 1.7-acre remainder (Parcel B). The 7.5-acre parcel is analyzed as a part of the Pilot Flying J Travel Center project in this EIR. The 1.7-acre Parcel B is analyzed as part of the Westside Annexation Area.

PILOT FLYING J TRAVEL CENTER PROJECT

Location and Land Use Designations

The proposed Pilot Flying J Travel Center (Pilot Flying J project) is located at the southwest quadrant of I-5 and Newville Road. The triangular-shaped site is bordered to the northeast by Newville Road/County Road 200 and the southbound I-5 on-ramp, to the west by County Road HH, and to the south by County Road 13. The property is located in Section 21, Township 22 North, Range 3 West, MDM, in Glenn County, California.

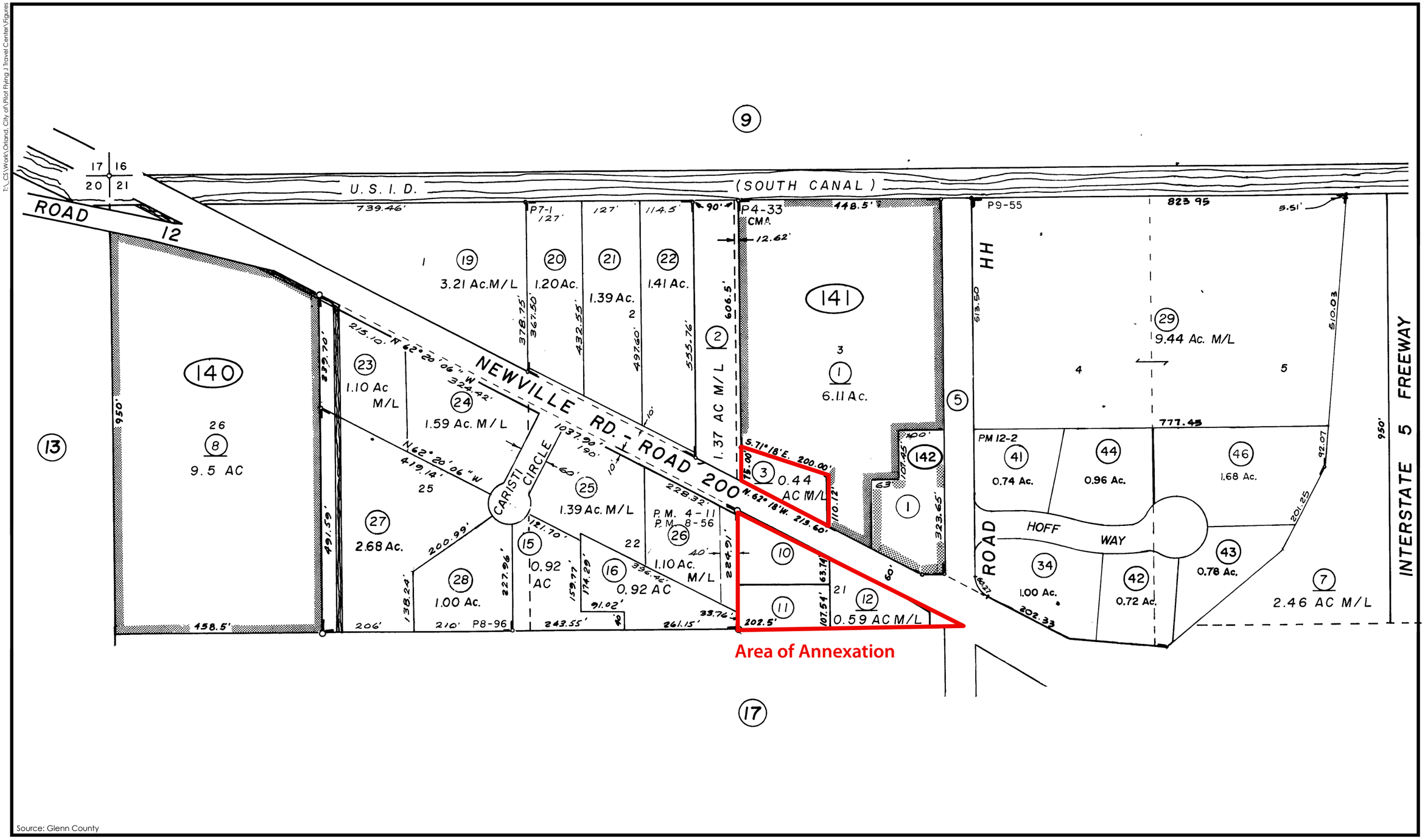
The Travel Center site is currently within Glenn County jurisdiction; however, the project applicant proposes annexation of the site by the City of Orland. The proposed Travel Center includes the approval of a tentative parcel map to divide the 9.2-acre site (APN 045-170-005) into two parcels. Parcel A would be 7.5 acres and the location of the Pilot Flying J Travel Center, and Parcel B would be 1.7 acres in size. See **Figure 2.0-4**. All proposed improvements for the Travel Center are located on Parcel A. While no development requests have been made regarding Parcel B, as a part of this environmental analysis Parcel B is assumed to be developed as 44,000 square feet of commercial uses and is evaluated in the Westside Annexation Area analysis.

The Pilot Flying J site is within the Orland General Plan Sphere of Influence and Planning Area. The site is currently designated in the Orland General Plan as Commercial. The Glenn County General Plan land use designation for the site is Highway and Visitor Service Commercial. As the Travel Center site is outside of the Orland city limits, the City has not zoned the property. Glenn County zoning for the site is Highway and Visitor Commercial (HVC). The proposed Travel Center includes a request to the City of Orland to prezone the site as Commercial Service Highway (C-H).

For the following discussion, semi trucks and heavy delivery trucks that would normally use diesel fueling stations are referred to as trucks. Automobile and pickup trucks are referred to as autos.

Operational Characteristics

The Pilot Flying J site is 7.5 acres in size and is currently vacant land. This land was used for agricultural purposes in the past; however, it is no longer used for that purpose and has not for many years. The Pilot Flying J component of the project proposes the development of an automobile/truck fueling station and a 12,964-square-foot building including a fast-food restaurant, a retail convenience store, a deli, and truckers lounge area (see **Figure 2.0-5**, Site Plan). The Travel Center will be open 24 hours a day seven days a week and anticipates employing 75 persons. The Travel Center anticipates serving 400 semi trucks and approximately 400 automobiles per day. Travel Center amenities are as follows:



Source: Glenn County

Not to scale

Figure 2.0-3a
Area of Annexation

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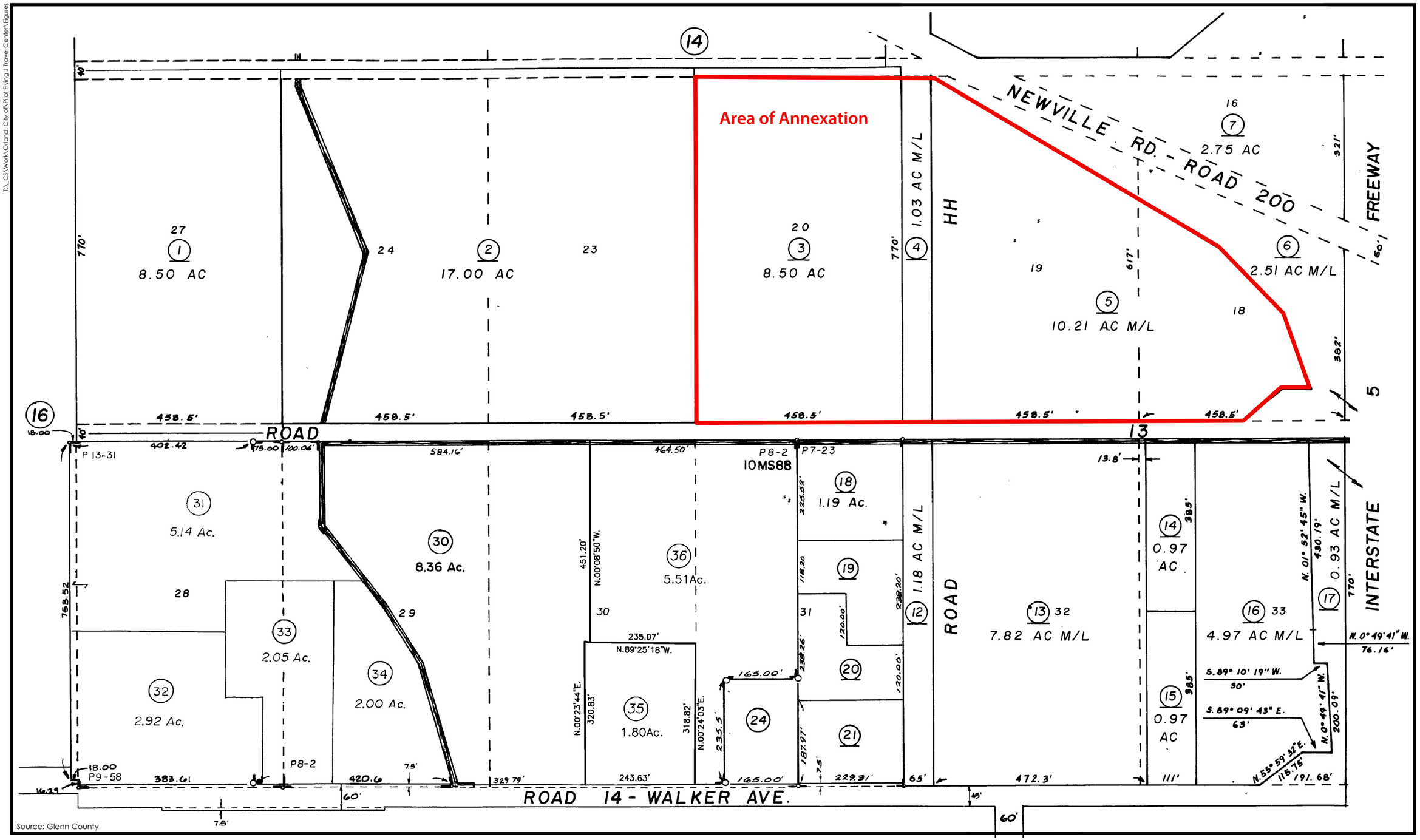
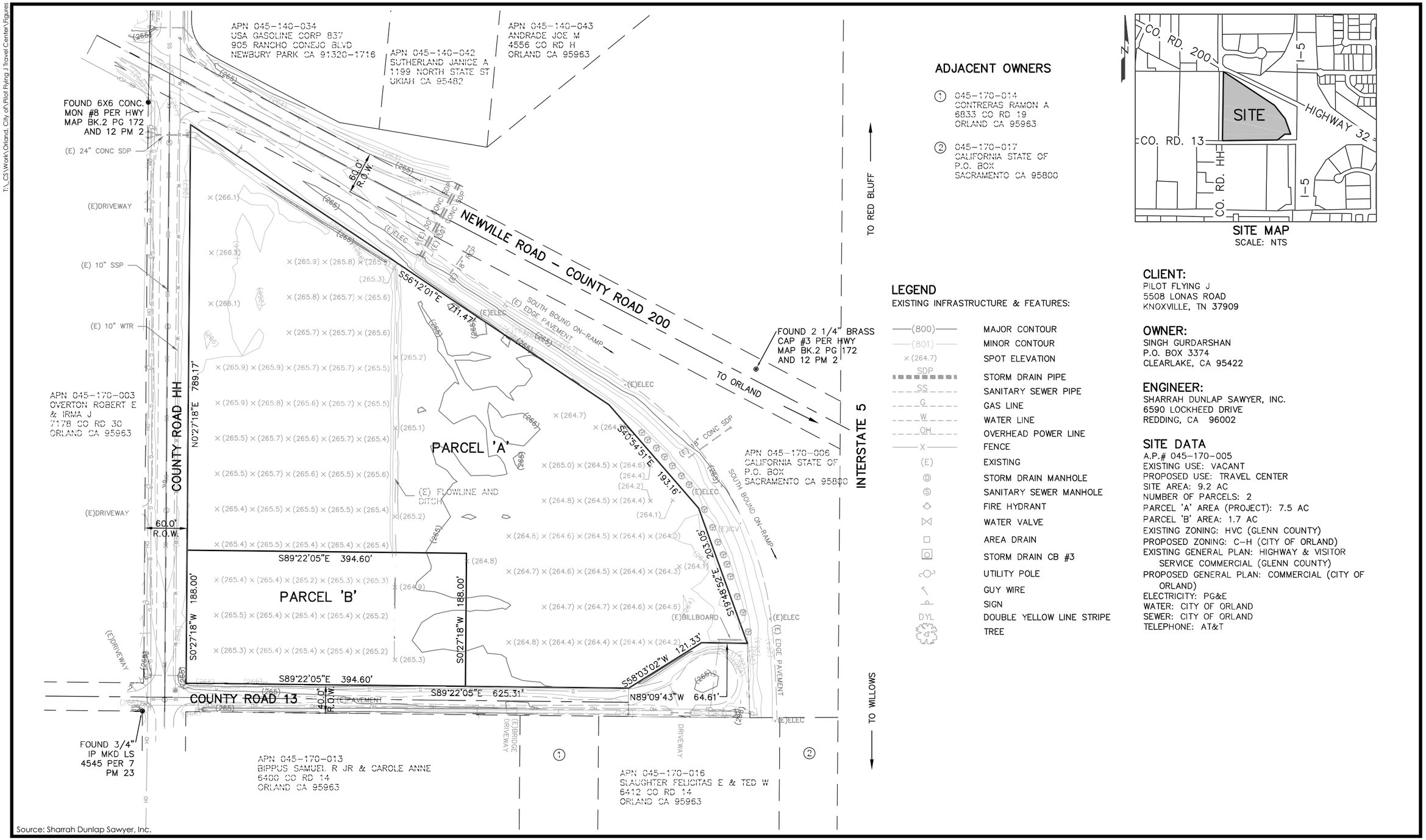


Not to scale

Figure 2.0-3b
Area of Annexation

T:_CS\Work\Orland, City of\Pilot Flying J Travel Center\Figures



Source: Sharrah Dunlap Sawyer, Inc.

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Figure 2.0-4
Tentative Parcel Map

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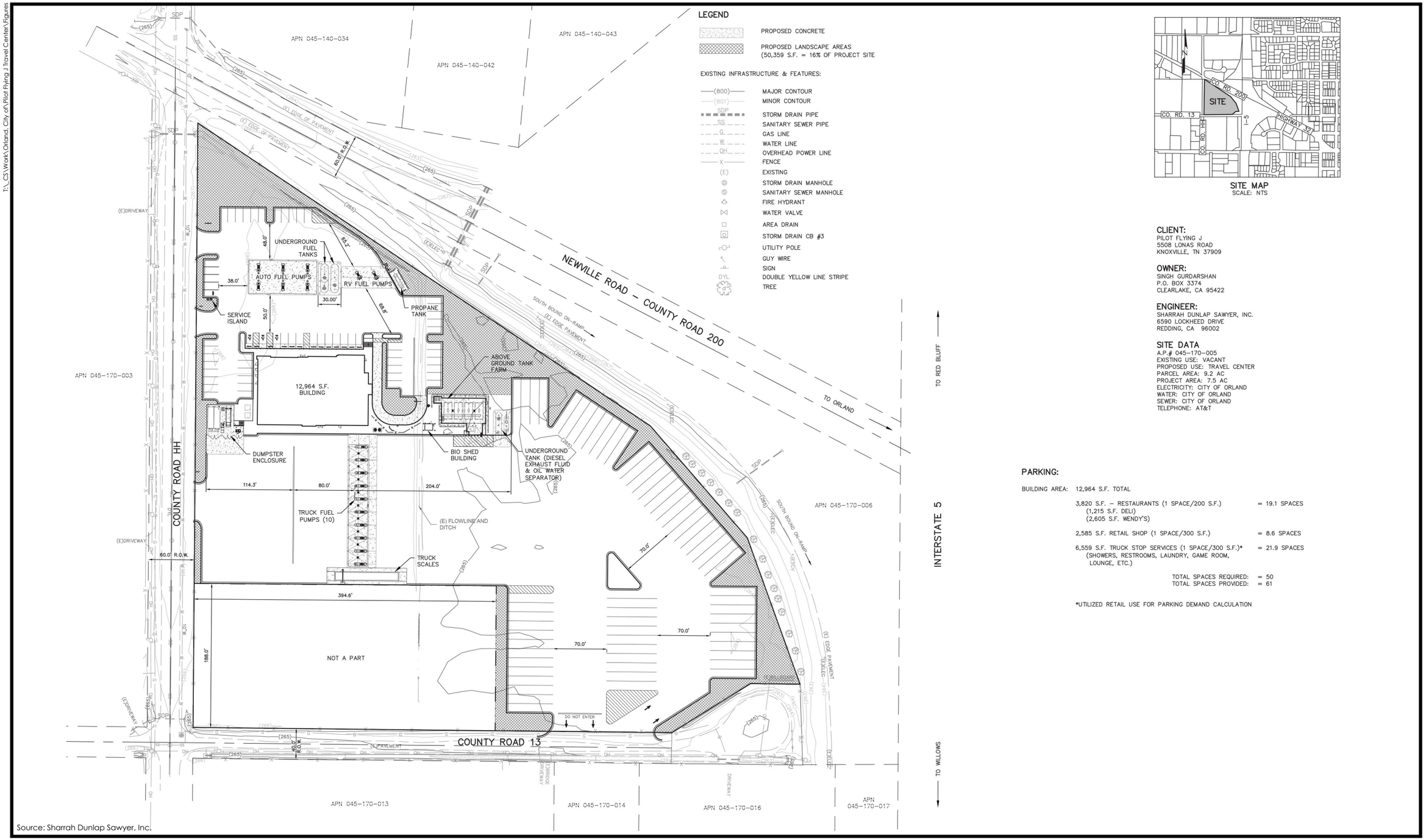

Source: Sharrah Dunlap Sawyer, Inc.

SITE MAP
SCALE: NTS

CLIENT:
PILOT FLYING J
5508 LONAS ROAD
KNOXVILLE, TN 37909

OWNER:
SINGH GURDARSHAN
P.O. BOX 3374
CLEARLAKE, CA 95422

ENGINEER:
SHARRAH DUNLAP SAWYER, INC.
6590 LOCKHEED DRIVE
REDDING, CA 96002

SITE DATA
A.P.# 045-170-005
EXISTING USE: VACANT
PROPOSED USE: TRAVEL CENTER
PARCEL AREA: 9.2 AC
PROJECT AREA: 7.5 AC
ELECTRICITY: CITY OF ORLAND
WATER: CITY OF ORLAND
SEWER: CITY OF ORLAND
TELEPHONE: AT&T

PARKING:

BUILDING AREA: 12,964 S.F. TOTAL

3,820 S.F. – RESTAURANTS (1 SPACE/200 S.F.) (1,215 S.F. DELI) (2,605 S.F. WENDY'S)	= 19.1 SPACES
2,585 S.F. RETAIL SHOP (1 SPACE/300 S.F.)	= 8.6 SPACES
6,559 S.F. TRUCK STOP SERVICES (1 SPACE/300 S.F.)* (SHOWERS, RESTROOMS, LAUNDRY, GAME ROOM, LOUNGE, ETC.)	= 21.9 SPACES
TOTAL SPACES REQUIRED:	= 50
TOTAL SPACES PROVIDED:	= 61

*UTILIZED RETAIL USE FOR PARKING DEMAND CALCULATION

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Figure 2.0-5
Pilot/Flying J Site Plan

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Facilities

- Fueling facilities offering 10 diesel lanes (includes diesel, diesel exhaust fluid [DEF] and biodiesel), 12 gas lanes, and 2 RV lanes
- CAT Certified Scale
- A 21.9-foot-tall, 12,964-square-foot commercial building that will include the following:
  - Drivers lounge, game room, and payphones
  - Restroom facilities, seven showers for rent, and public laundry
  - ATMs, Western Union, and check cashing
  - Wi-Fi Internet
  - A 2,585-square-foot retail convenience store
  - A 1,215-square-foot PJ Fresh Marketplace Deli
  - A 2,605-square-foot Wendy's restaurant (1,140 square feet of dining area and a 1,465-square-foot kitchen)
  - A Cinnabon kiosk
- Dumpster enclosure
- 62 truck parking spaces (allowing overnight parking)
- 61 automobile parking spaces
- A ±100-foot-tall pole sign for interstate traffic
- A ±38-foot-tall goalpost sign along Newville Road
- Bio shed building (houses a mixing blender used to blend diesel fuel and B100 fuel to sell the biodiesel product)
- Transflo Express (trip documents) equipment

Fuel Storage

- Two aboveground storage tank farms, which include:
  - Six 12,000-gallon diesel fuel aboveground storage tanks
  - Two 12,000-gallon B100 fuel aboveground storage tanks
- One 12,000-gallon diesel exhaust fluid underground tank
- One 4,000-gallon oil water separator underground tank
- One 25,000-gallon gasoline fuel underground storage tank
- One 1,000-gallon aboveground propane storage tank

Fuel Deliveries

- Six daily diesel fuel deliveries
- One daily gasoline fuel delivery

Travel Center Phasing

It is anticipated that construction of the Travel Center would be completed in one phase over an approximately 4.5-month time frame.

Site Drainage

The Travel Center site contains no natural drainage channels. Under existing conditions, stormwater runoff from the site is minimal due to the level topography and the pervious nature of vacant and undeveloped condition of the site, which allows water to percolate. An existing agricultural water delivery ditch is located south of the Travel Center site at south side of County Road 13.

Water Supply

Potable water for the Travel Center would be supplied by the City of Orland. The Travel Center would connect to the existing 10-inch water main located within County Road HH right-of-way. All on-site water lines would be provided by the project. Based on water use of characteristics similar projects, the estimated water demand for the proposed Travel Center is anticipated to be approximately 9,000 gallons per day.

Fire Protection

The Orland Building Department and the Orland Fire Authority will require not less than 5000GPM to be supplied from a looped City water main system to the project site. Fire flow requirements established by Section 507 of the 2013 California Fire Code for this project are 5000GPM prior to any allowable reductions due to on site fire protection systems and fire resistive type of construction allowances. Any proposed fire flow reductions due to on site fire protection systems and or non-combustible construction will be considered during plan review.

Wastewater Collection

Wastewater collection and treatment would be supplied by the City of Orland. The Travel Center would connect to an existing sanitary sewer trunk line located within the County Road HH right-of-way. All on-site sewer lines, filters, and grease traps would be provided by the Travel Center. Estimated wastewater flow for the proposed Travel Center is approximately 9,000 gallons per day.

Storm Drainage

The storm drain system would be designed to limit peak runoff during the 10-, 25-, and 100-year storm events to pre-development levels or below. The storm drain system would be sized and backfilled with drain rock, wrapped in filter fabric, to accomplish three purposes: (1) allow runoff to infiltrate into the ground based on predetermined infiltration rates from the geotechnical report; (2) provide adequate storage so any runoff that leaves the property will be metered at a

rate not exceeding pre-development rates; and (3) the rock and filter fabric will serve to treat runoff to improve the quality of the runoff.

Circulation

The main access to the Travel Center site would be County Road HH via Newville Road/County Road 200. Newville Road runs in a northwest–southeast direction as it crosses over Interstate 5. Newville Road becomes Walker Street/State Route 32 as it passes though the main commercial area of Orland. Adjacent to the site, Newville Road is a rural two-lane roadway. Improvements to this roadway would include reconfiguring and reconstructing the Newville Road/County Road HH intersection to allow an adequate turning radius for large trucks as well as for efficient traffic operations.

County Road HH would provide the main access to the Travel Center through three points of entry. Two of these entry driveways would access the commercial building and all of its amenities as well as the automobile and RV fueling pumps. The third driveway from County Road HH would access the truck fueling pumps and truck parking area. County Road HH is currently a rural two-lane roadway. This roadway would be widened to a minimum 32 foot half-street width adjacent to the site and improved per City roadway standards as part of the project.

Access to the truck fueling pumps and parking area would also be provided via County Road 13 south of the site. Currently, County Road 13 provides access to one single-family home south of the Travel Center site. At this time, this roadway is a narrow single-lane road in poor condition. County Road 13 would also be reconstructed and widened to 32 foot half-street width adjacent to the site and improved per City roadway standards as a part of the project.

There are no driveways between the commercial building/auto and RV fueling pumps and the truck fueling/parking area. Due to project design features (curbs, fencing, walls), auto/truck interaction between these two areas is not possible.

Landscaping and Lighting

Landscaping and lighting would be included as a component of project design. Landscaped areas would surround the perimeter of the Travel Center site.

On-site lighting would be provided on all areas of the site, as needed for safety, security, and aesthetics. City of Orland Municipal Code Section 17.44.110 assists in the reduction of nighttime lighting impacts by requiring proper shielding and illumination standards in order to direct lighting away from adjacent properties, highways, or Interstate 5.

Energy

Pacific Gas and Electric Company (PG&E) would provide electrical service and natural gas service to the proposed Travel Center site. All new electrical and natural gas lines to serve future buildings would be located underground. Existing overhead power and telecommunications lines along respective project frontages will be allowed to remain in place and will not require undergrounding.

Grading

The entire project area is generally flat. Construction will involve the removal of small amounts of grasses and vegetation and include the excavation necessary to support buildings and site improvements. No import or export of soil is anticipated, although it is likely that the vegetation and small amounts of existing hard surface materials will be removed.

2.4 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS FROM OTHER PUBLIC AGENCIES

PROJECT RELATIONSHIP TO EXISTING PLANNING DOCUMENTS

General Plan

California state law requires cities and counties to prepare a general plan describing the location and types of desired land uses and other physical attributes in the city or county. General plans are required to address land use, circulation, housing, conservation, open space, noise, and safety. The Orland General Plan is the City's basic planning document and provides a comprehensive, long-term plan for physical development in the city. As previously stated, the City General Plan designates the Pilot Flying J Travel Center site and Westside Annexation Area as Commercial. The City established the Commercial land use designation to provide for a range of uses including retail stores, restaurants, professional and medical offices, large office complexes, light manufacturing plants, outdoor recreation facilities, hotels, and many other uses involving the sale of a product or a service (City of Orland 2010, p. 2-19).

Zoning Ordinance

The Zoning Ordinance implements the policies of the General Plan by classifying and regulating the lands uses and associated development standards in the city. The Travel Center site, along with the Westside Annexation Area, is currently outside of the city and does not have a City of Orland zoning district identified for the parcel. The City's approval for development of the Travel Center site would require annexation by the City as well as prezoning of the Travel Center site to Highway Commercial (C-H) and the Westside Annexation Area to C-H, General Commercial (C-2), and Open Space (O-S).

PERMITS AND APPROVALS

This EIR will be used by the City of Orland in considering approval of the proposed project. In accordance with CEQA Guidelines Section 15126, the EIR will be used as the primary environmental document in consideration of all subsequent planning and permitting actions associated with the project (including annexation and prezoning), to the extent such actions require CEQA compliance. These City actions, both discretionary and ministerial, include, but are not limited to, the following:

- General Plan Amendment (045-140-003)
- Zoning Map Amendment / Prezoning for annexation of the Travel Center site and Annexation Area
- Conditional Use Permit
- Tentative Map

- Development agreement
- Construction permits (various)
- In addition to the above City actions, the project may require approvals, permits, and entitlements from other public agencies for which this EIR may be used, including, without limitation, the following:
- California Department of Transportation, District 5
- California Department of Fish and Wildlife, Region 2
- Regional Water Quality Control Board, Central Valley Region (Region 5)
- Glenn County Air Pollution Control District
- State Water Resources Control Board
- US Army Corps of Engineers
- US Fish and Wildlife Service

REFERENCES

Glenn County. 1993. *Glenn County General Plan*.

Orland, City of. 2010. *City of Orland General Plan 2008–2028*. http://cityoforland.com/govt/dept/planning/forms.asp.

———. 2013. *Orland Zoning Ordinance, Title 17 of the Orland Municipal Code*. Codified through Ordinance No. 2013-08, passed November 18, 2013. https://library.municode.com/index.aspx?clientId=16542.

3.0 Introduction to the Environmental Analysis and Assumptions Used

3.0 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS AND ASSUMPTIONS USED

The following is an introduction to the environmental analysis for the proposed project, including a discussion of general assumptions used in the analysis and a discussion regarding the cumulative analysis. The reader is referred to the individual technical sections of this Draft Environmental Impact Report (Draft EIR; DEIR) (Sections 3.1 through 3.10) for further information on the specific assumptions and methodologies used in the analysis for each particular technical subject.

ANALYSIS ASSUMPTIONS USED TO EVALUATE THE IMPACTS OF THE PROJECT

BASELINE ENVIRONMENTAL CONDITIONS ASSUMED IN THE DRAFT EIR

Section 15125(a) of the California Environmental Quality Act (CEQA) Guidelines requires that an EIR include a description of the physical environmental conditions in the vicinity of the project as they exist at the time the Notice of Preparation (NOP) is published. The CEQA Guidelines also specify that this description of the physical environmental conditions is to serve as the baseline physical conditions by which a lead agency determines whether impacts of a project are considered significant.

The environmental setting conditions of the project site and the surrounding area are described in detail in the technical sections of this Draft EIR (see Sections 3.1 through 3.10). In general, these setting discussions describe the setting conditions of the project site and the surrounding area as they existed when the NOP for the project was released on October 31, 2014.

PROJECTED BUILDOUT CONDITIONS ASSOCIATED WITH THE PROPOSED PROJECT

For the purposes of the environmental analysis, the Draft EIR compared the proposed project components to the existing physical conditions on the project area as of the time of the issuance of the Notice of Preparation for the project.

Buildout of the Travel Center site would result in the construction of a fueling station, a convenience store, and a fast-food restaurant along with site improvements, road improvements, and support facilities and structures. The project includes the annexation of the Pilot Flying J site and the Westside Annexation Area properties by the City of Orland. The proposed project will also provide for roadway improvements on County Road HH, County Road 13, and Newville Road. Additionally, while no projects have been proposed for the Westside Annexation Area properties at this time, development of this site could result in up to 44,000 square feet of commercial uses if built at the maximum permissible lot coverage of 60 percent.

Detailed descriptions of each project component are located in Section 2.0, Project Description, of this Draft EIR.

STRUCTURE OF THE ENVIRONMENTAL IMPACT ANALYSIS

Sections 3.1 through 3.10 of this Draft EIR contain a detailed description of current setting conditions (including the applicable regulatory setting) and an evaluation of the direct and indirect environmental effects resulting from implementation of the proposed project. Each section of the DEIR that identifies mitigation measures will also identify whether significant environmental effects of the project would remain after application of the feasible mitigation measures. Each of the EIR sections includes the following information:

Existing Setting

This subsection includes a description of the physical setting associated with the technical area of discussion, consistent with CEQA Guidelines Section 15125. As previously identified, the existing setting is based on conditions as they existed when the NOP for the proposed project was released on October 31, 2014.

Regulatory Framework

This subsection identifies applicable federal, state, regional, and local plans, policies, laws, and regulations that apply to the technical area of discussion.

The City of Orland General Plan serves as the overall guiding policy document for the city. As required by CEQA Guidelines Section 15125(d), a summary of any inconsistencies between the proposed project and the Orland General Plan is contained in Section 3.6, Land Use, of this Draft EIR. While this Draft EIR analyzes any inconsistencies between the proposed project and the General Plan pursuant to CEQA Guidelines Section 15125(d), the Orland City Council would make the ultimate determination of consistency with the General Plan.

Impacts and Mitigation Measures

This subsection identifies direct and indirect environmental effects associated with implementation of the proposed project. Standards of significance are identified and used to determine whether the environmental effects are considered significant and require the application of mitigation measures. Each environmental impact analysis is identified numerically (e.g., Impact 3.1.1 – Conflict with the 2012 Air Quality Management Plan) and is supported by substantial evidence.

Mitigation measures for the proposed project were developed through a review of the environmental effects of the proposed project by consultants with technical expertise as well as by environmental professionals, in coordination with the City. In some cases, the mitigation measures identified consist of performance standards that identify clear requirements which would avoid or minimize significant environmental effects (the use of performance standard mitigation is allowed under CEQA Guidelines Section 15126.4[a]).

APPROACH TO THE CUMULATIVE IMPACT ANALYSIS

Definition of Cumulative Setting

CEQA Guidelines Section 15130 requires that EIRs include an analysis of the cumulative impacts of a project when the project's effect is considered cumulatively considerable. In general, the cumulative setting conditions considered in this Draft EIR are based on:

- **Locally Adopted General Plan.** The cumulative environmental effects of the proposed project are generally based on information provided in the City of Orland General Plan and General Plan EIR, with identification of the project's contribution to the cumulative condition and updated information on the cumulative setting based on currently approved and proposed development projects in the city.

- **Effect of Regional Conditions.** The cumulative setting considers regional conditions for those issue areas that have implications beyond Orland, such as traffic, air quality, and climate change. Background traffic volumes and patterns on Interstate 5, background

air quality conditions in the Sacramento Valley Air Basin, and other associated environmental conditions that occur in the region have the potential to affect these conditions within the city. Each technical section of the Draft EIR includes a description of the geographic extent of the cumulative setting for that resource based on the characteristics of the environmental issues under consideration as set forth in CEQA Guidelines Section 15130(b).

- **Consideration of Existing Development Patterns.** The cumulative setting considers the current environmental conditions of existing development and past land use activities in the region. This includes major land use activities in Orland as well as in nearby areas.

Consideration of Cumulative Impacts

Each technical section in the Draft EIR considers whether the project's effect on anticipated cumulative setting conditions is cumulatively considerable (i.e., a significant effect). The determination of whether the project's impact on cumulative conditions is considerable is based on applicable public agency standards, consultation with public agencies, and/or expert opinion.

COMMON TERMINOLOGY USED IN THE DRAFT EIR

This Draft EIR uses the following terminology to describe the environmental effects of the proposed project:

Less Than Significant Impact: A less than significant impact would cause no substantial change in the physical condition of the environment (no mitigation would be required for project effects found to be less than significant).

Significant Impact and Potentially Significant Impact: A significant impact would cause (or would potentially cause) a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects using specified standards of significance provided in each technical section of the DEIR. Identified significant impacts are those where the project would result in an impact that can be measured or quantified, while identified potentially significant impacts are those impacts where an exact measurement of the project's effects cannot be made but substantial evidence indicates that the impact would exceed standards of significance. A potentially significant impact may also be an impact that may or may not occur and where a definite determination cannot be foreseen. Mitigation measures and/or project alternatives are identified to avoid or reduce project effects to the environment to a less than significant level.

Significant and Unavoidable Impact: A significant and unavoidable impact would result in a substantial negative change in the environment that cannot be avoided or mitigated to a less than significant level if the project is implemented.

Less Than Cumulatively Considerable Impact: A less than cumulatively considerable impact would cause no substantial change in the physical condition of the environment under cumulative conditions.

Cumulatively Considerable Impact: A cumulatively considerable impact would result when the incremental effects of an individual project result in a significant adverse physical impact on the environment under cumulative conditions.

Standards of Significance: A set of significance criteria to determine at what level or "threshold" an impact would be considered significant. Significance criteria used in this DEIR include the CEQA Guidelines; factual or scientific information; regulatory performance standards of local, state, and federal agencies; and City goals, objectives, and policies.

3.1 Air Quality

This section examines the air quality in Orland, includes a summary of applicable air quality regulations, and analyzes potential air quality impacts associated with the proposed project.

3.1.1 EXISTING SETTING

NORTHERN SACRAMENTO VALLEY AIR BASIN

The proposed project is located in Glenn County, which is in the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB consists of a total of seven counties: Sutter, Yuba, Colusa, Butte, Glenn, Tehama, and Shasta. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada range. These mountain ranges reach heights in excess of 6,000 feet above mean sea level, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as that transported northward on prevailing winds from the Sacramento metropolitan area (SVBAPCC 2013).

The environmental conditions of Glenn County are conducive to potentially adverse air quality conditions. The basin area traps pollutants between two mountain ranges to the east and the west. This problem is exacerbated by a temperature inversion layer that traps air at lower levels below an overlying layer of warmer air. Prevailing winds in the area are from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas. Growth and urbanization in Glenn County have also contributed to an increase in emissions.

AIR POLLUTANTS OF CONCERN

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state laws. These regulated air pollutants are known as "criteria air pollutants" and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), lead, and fugitive dust are primary air pollutants. Of these, CO, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

Other pollutants, such as carbon dioxide, a natural byproduct of animal respiration that is also produced in the combustion process, have been linked to such phenomena as climate change. While there are no adopted thresholds for their release, Assembly Bill (AB) 32 requires the state to reduce emissions to 1990 levels by 2020, which is discussed further in Section 3.4, Greenhouse Gases and Climate Change. These pollutants do not jeopardize the attainment status of the air basin. Sources and health effects commonly associated with criteria pollutants are summarized in **Table 3.1-1.**

TABLE 3.1-1
CRITERIA AIR POLLUTANTS SUMMARY OF COMMON SOURCES AND EFFECTS

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NOx) in the presence of sunlight. VOCs are also commonly referred to as reactive organic gases (ROGs). Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.
Particulate Matter (PM_{10} & $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2011

AMBIENT AIR QUALITY

Ambient air quality in the county can be inferred from ambient air quality measurements conducted at air quality monitoring stations. Existing levels of ambient air quality and historical trends and projections in the region are documented by measurements made by the Glenn County Air Pollution Control District (GCAPCD), the air pollution regulatory agency in the air basin that maintains air quality monitoring stations. The nearest air quality monitoring site to the project site is located at 720 N. Colusa Street in Willows, approximately 15 miles south of the

project site. This monitoring station monitors ambient concentrations of ozone and airborne particulates (PM_{10} and $PM_{2.5}$). Ozone, PM_{10}, and $PM_{2.5}$ are the primary pollutants affecting the air basin. **Table 3.1-2** shows historical occurrences of ozone, PM_{10}, and $PM_{2.5}$ pollutant levels exceeding state and federal ambient air quality standards for the three-year period including 2011, 2012, and 2013.

TABLE 3.1-2
AMBIENT AIR QUALITY MONITORING DATA

Pollutant Standards	2011	2012	2013
Willows-720 N. Colusa Street Monitoring Station			
Ozone			
Max 1-hour concentration (ppm)	0.082	0.078	0.085
Max 8-hour concentration (ppm) (state/federal)	0.073 / 0.072	0.070 / 0.069	0.072 / 0.071
Number of days above state 1-hour standard	0	0	0
Number of days above state/federal 8-hour standard	1 / 0	0 / 0	1 / 0
Willows-720 N. Colusa Street Monitoring Station			
Coarse Particulate Matter			
Max 24-hour concentration ($\mu g/m^3$) (state/federal)	49.1 / 48.1	86.5 / 84.0	43.6 / 44.6
Number of days above state/federal standard	0 / 0	18.7 / 0	* / *
Fine Particulate Matter			
Max 24-hour concentration ($\mu g/m^3$) (state/federal)	36.9 / *	37.7 / *	35.3 / *
Number of days above federal standard	*	*	*

Source: CARB 2014a
Notes: $\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million
** = No data is currently available from CARB to determine the value.*

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes, such as petroleum refining and chrome-plating operations; commercial operations, such as gasoline stations and dry cleaners; and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

To date, the California Air Resources Board (CARB) has designated nearly 200 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to a relatively few compounds.

Most recently, CARB identified diesel particulate matter (diesel PM) as a toxic air contaminant. Diesel PM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. Diesel PM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. Diesel PM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of diesel PM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (EPA 2002, pp. 1-1 and 1-2). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. Diesel PM poses the greatest health risk among the TACs. Almost all diesel exhaust particle mass is 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Children are considered more susceptible to health effects of air pollution due to their immature immune systems and developing organs (OEHHA 2007). As such, schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities.

3.1.2 REGULATORY FRAMEWORK

The proposed project has the ability to release gaseous emissions of criteria pollutants and dust into the ambient air; therefore, development activities under the proposed project entitlements fall under the ambient air quality standards promulgated at the local, state, and federal levels. The federal Clean Air Act of 1971 and the Clean Air Act Amendments (1977) established the national ambient air quality standards (NAAQS), which are promulgated by the US Environmental Protection Agency (EPA). The State of California has also adopted its own California ambient air quality standards (CAAQS), which are promulgated by CARB. Implementation of the project would occur in the Glenn County portion of the NSVAB, which is under the air quality regulatory jurisdiction of the Glenn County Air Pollution Control District and is subject to the rules and regulations adopted by the air district to achieve the national and state ambient air quality standards. Federal, state, regional, and local laws, regulations, plans, and guidelines are summarized below.

AMBIENT AIR QUALITY STANDARDS

The Clean Air Act of 1971 established NAAQS, with states retaining the option to adopt more stringent standards or to include other pollution species. These standards are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both the State of California and the federal government have established health-based ambient air quality standards for six air pollutants. As shown in **Table 3.1-3**, these pollutants include ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

TABLE 3.1-3
AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	National Standards
Ozone (O_3)	8 Hour	0.070 ppm (137μg/m^3)	0.075 ppm
	1 Hour	0.09 ppm (180 μg/m^3)	—
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 μg/m^3)	100 ppb
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	53 ppb (100 μg/m^3)
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 μg/m^3)	N/A
	3 Hour	—	N/A
	1 Hour	0.25 ppm (665 μg/m^3)	75 ppb
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 μg/m^3	N/A
	24 Hour	50 μg/m^3	150 μg/m^3
Particulate Matter – Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 μg/m^3	15 μg/m^3
	24 Hour	N/A	35 μg/m^3
Sulfates	24 Hour	25 μg/m^3	N/A
Lead	Calendar Quarter	N/A	1.5 μg/m^3
	30 Day Average	1.5 μg/m^3)	N/A
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	N/A
Vinyl Chloride (chloroethene)	24 Hour	0.01 ppm (26 μg/m^3)	N/A
Visibility-Reducing Particles	8 Hour (10:00 to 18:00 PST)	—	N/A

Source: CARB 2013a
Notes: mg/m^3 = milligrams per cubic meter; ppm = parts per million; ppb = parts per billion; μg/m^3 = micrograms per cubic meter

AIR QUALITY ATTAINMENT PLANS

In 1994, the air districts in the Northern Sacramento Valley Planning Area (NSVPA), a subsection of the greater Sacramento Valley Air Basin which includes the GCAPCD jurisdiction, prepared an Air Quality Attainment Plan for ozone. This plan was updated in 1997, 2000, 2003, 2006, 2009, and again in 2012. Like the preceding plans, the 2012 plan focuses on the adoption and implementation of control measures for stationary sources, area-wide sources, indirect sources, and public information and education programs. The 2012 plan also addresses the effect that pollutant transport has on the NSVPA's ability to meet and attain the state standards.

The Air Quality Attainment Plan provides local guidance for air basins to achieve attainment of ambient air quality standards. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Areas for which there is insufficient data available are designated unclassified. The attainment status for the Glenn County portion of the NSVAB is included in **Table 3.1-4**. The region is nonattainment for state PM_{10} standards (CARB 2013b, 2014b).

TABLE 3.1-4
FEDERAL AND STATE AMBIENT AIR QUALITY ATTAINMENT STATUS FOR GLENN COUNTY

Pollutant	Federal	State
1-Hour Ozone (O_3)	—	Attainment
8-Hour Ozone (O_3)	Unclassified/Attainment	Attainment
Coarse Particulate Matter (PM_{10})	Unclassified	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Unclassified/Attainment	Attainment
Carbon Monoxide (CO)	Unclassified/Attainment	Unclassified
Nitrogen Dioxide (NO_2)	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO_2)	Unclassified	Attainment

Source: CARB 2013b, 2014b

Glenn County Air Pollution Control District

In Glenn County, the air quality regulating authority is the GCAPCD, which adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs. The district also regulates agricultural burning. Other responsibilities include monitoring air quality, preparing clean air plans, and responding to citizen complaints concerning air quality.

The GCAPCD develops regulations to improve air quality and protect the health and welfare of Glenn County residents and their environment. GCAPCD rules and regulations (CARB 2013c) most applicable to the project area include, but are not limited to, the following:

- ***Article IV, Section 76, Visible Emissions***. A person shall not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

    A. As dark or darker in shade as that designated as No. 2 on the Ringlemann Chart, as published by the United States Bureau of Mines, or

B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection "A" above.

- ***Article IV, Section 78, Nuisance***. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public of which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

- ***Article IV, Section 83, Petroleum Storage & Dispensing***. No new gasoline storage tank with a capacity of 250 gallons or more shall be installed unless it is equipped with a permanent submerged fill pipe as described in Section 41950, Health and Safety Code, or unless such tank is a pressure tank as described in Section 42400, Health and Safety Code, or is equipped with a vapor recovery system as described in Section 41952, Health and Safety Code, or with a floating roof as described in Section 41953, Health and Safety Code.

  – ***Section 83.1. Service Stations & Bulk Storage Plants.*** When filling bulk storage tanks at service stations and bulk plant facilities, a 90 percent (or greater) vapor balance system shall be utilized during filling. Service stations with throughputs of less than 300,000 gallons per year are exempt when receiving shipments from local distributors with facilities not equipped to handle returning vapors. Listing of efficiencies for vapor recovery units may be obtained through the California Air Resources Board. (Full compliance to be completed by November 1, 1980.)

- ***Article IV, Section 85, Particulate Matter Concentration.*** Except for emissions from agricultural operations, no person shall discharge into the atmosphere from any source particulate matter in excess of 0.3 grains per cubic foot of gas at standard conditions.

- ***Article IV, Section 98, Airborne Toxic Control Measure: Retail Service Stations.*** The intent of this rule to ensure compliance with the California Code of Regulations, Section 93101 of Title 17 by reducing benzene emissions from retail service stations with an annual gasoline throughput of 480,000 gallons or greater. Article IV, Section 98 requires fuel storage tanks to be equipped with a permanent submerged fill pipe and the storage tank and delivery vessel must be equipped with a California Air Resources Board Certified Phase I vapor recovery system and all vapor return lines are required to be connected between the delivery vessels and stationary storage containers during fuel transfer. In addition to other air pollutant-reducing measures this rule also requires the use of California Air Resources Board Certified Phase II vapor recovery systems on the fuel dispensers.

Toxic Air Contaminant Regulations

In 1983, the California legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 United States Code Section 7412[b]) is a TAC. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or

contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as toxic air contaminants. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. CARB has, to date, established formal control measures for eleven TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

Since the last update to the TAC list in December 1999, CARB has designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

California Diesel Risk Reduction Plan

In September 2000, CARB adopted the Diesel Risk Reduction Plan (DRRP), which recommends many control measures to reduce the risks associated with diesel PM and achieve a goal of 85 percent by 2020. The DRRP incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. Ongoing efforts by CARB to reduce diesel-exhaust emissions from these sources include the development of specific statewide regulations, which are designed to further reduce diesel PM emissions. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

Since the initial adoption of the DRRP in September 2000, CARB has adopted numerous rules related to the reduction of diesel PM from mobile sources, as well as the use of cleaner-burning fuels. Transportation sources addressed by these rules include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty equipment.

3.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the application of the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance:

1) Conflict with or obstruct implementation of any applicable air quality plan.

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

3) Expose sensitive receptors to substantial pollutant concentrations.

4) Create objectionable odors affecting a substantial number of people.

5) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The GCAPCD has no established air pollutant emission thresholds under CEQA for the assessment of air quality impacts. Therefore, the proposed project will be compared to the significance thresholds established by the Tehama County Air Pollution Control District (TCAPCD), which has established thresholds under CEQA for the assessment of air quality impacts. While air quality standards established in Tehama County are not binding on Glenn County, they are instructive for comparison purposes. The TCAPCD thresholds are consistent with the California Clean Air Act. The thresholds of significance are summarized in **Table 3.1-5**.

TABLE 3.1-5
TEHAMA COUNTY APCD THRESHOLDS OF SIGNIFICANCE

Threshold	Emissions (lbs/day)		
	NO_X	ROG	PM_{10}
Level "A" Thresholds	25	25	80
Level "B" Thresholds	137	137	137

Source: TCAPCD 2009

If a project has emissions that are less than the Level A thresholds, only feasible standard mitigation measures are required. If a project has emissions that exceed the Level A thresholds, the project applicant must apply all feasible mitigation measures for construction and/or operation from the lists of recommended SMMs and appropriate best available mitigation measures.

If a project has emissions that exceed the Level B thresholds, the project applicant must apply special best available mitigation measures, in addition to the required standard mitigation measures and best available mitigation measures. If application of these procedures results in reducing a project's emissions to a level below the threshold of 137 pounds per day for ROG, NO_x, and PM_{10}, air quality impacts would be considered less than significant. If however, project emissions are still in excess of the Level B category, project emissions are considered to be significant.

CO Hot Spot Analysis

In addition to the daily thresholds listed above, the proposed project would also be subject to the ambient air quality standards. These are addressed though an analysis of localized CO impacts. The California 1-hour and 8-hour CO standards are:

- 1-hour = 20 parts per million
- 8-hour = 9 parts per million

The significance of localized impacts depends on whether ambient CO levels in the vicinity of the project site are above state and federal carbon monoxide standards. CO concentrations in Orland no longer exceed the CAAQS or NAAQS criteria, and Glenn County has been designated as attainment under the 1-hour and 8-hour standards.

Toxic Air Contaminant Thresholds

In addition to the above thresholds relating to criteria air pollutants and CO hot spots, this EIR evaluates the project's impacts with respect to TACs. If emissions of TACs exceed any of the thresholds listed below, the proposed project would result in a significant impact.

Construction

- A 24-Hour PM_{10} concentration (including fugitive dust and exhaust emissions) of greater than 50 $\mu g/m^3$ ($\mu g/m^3$ = micrograms per cubic meter)

Operations

- An annual exhaust PM_{10} concentration (diesel PM) of greater than 20 $\mu g/m^3$ ($\mu g/m^3$ = micrograms per cubic meter)
- An annual exhaust $PM_{2.5}$ concentration (diesel PM) of greater than 12 $\mu g/m^3$ ($\mu g/m^3$ = micrograms per cubic meter)
- An excess cancer risk level of more than 10 in one million
- A non-cancer (i.e., chronic or acute) hazard index greater than 1.0

METHODOLOGY

As stated in Section 2.0, Project Description, the proposed project includes two components: (1) the annexation by the City of Orland of a total of six parcels and roadways, and (2) the development of a proposed Pilot Flying J Travel Center. The total area of annexation is 19.63 acres. However, a 7.5-acre portion of one of the six parcels is analyzed separately in this EIR as the Pilot Flying J Travel Center project. This is done because the Pilot Flying J Travel Center site has specific development proposed, while the remaining parcels do not. Other than development of 7.5 acres with the Pilot Flying J Travel Center, all existing uses in the area to be annexed by the City are to remain as currently existing, and no development of these areas has been proposed as a part of this project. However, in order to ascertain the potential for environmental impact resulting from annexation of this additional 12.13 acres (known as the Westside Annexation Area), a development potential for each individual parcel has been assumed based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed (see **Table 2.0-1**). Based on the development potential shown in **Table 2.0-1**, the Westside Annexation Area could result in 1.7 acres of new commercial uses. The remaining acreage of the Westside Annexation Area already accommodates existing uses.

Criteria air pollutant emissions were modeled using the California Emissions Estimator Model (CalEEMod) for both the development potential of the Westside Annexation Area and the proposed Pilot Flying J Travel Center. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Detailed construction schedules for the Westside Annexation Area are not currently known, as no development is proposed for this area at this time. Therefore, construction-generated emissions associated with the current development potential in the Westside Annexation Area (see **Table 2.0-1**) were calculated using the default settings for Glenn County contained in the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Operational emissions associated with the development potential in the Westside Annexation Area were also estimated using CalEEMod defaults. Construction-generated emissions associated with the Pilot Flying J Travel Center were calculated using the CalEEMod computer program accounting for the 4.5-month construction time frame noted in Section 2.0, Project Description. Emissions generated during operations account for the estimated traffic trip generation rates derived from the traffic impact analysis (KD Anderson 2015) prepared for the travel center.

As previously stated, diesel PM poses a health risk. Therefore, diesel PM quantification was modeled for the construction and operation of the proposed Pilot Flying J Travel Center using the EPA's AERMOD air toxic dispersion model. In order to provide a more conservative analysis, fugitive dust PM generated during construction of the travel center was also quantified. Potential construction-generated air toxic concentration impacts (fugitive dust PM_{10} and exhaust PM_{10} concentrations) and associated health risks resulting from the Pilot Flying J Travel Center were evaluated by comparing estimated PM_{10} concentrations with the significance thresholds established by the State of California and the Sacramento Metropolitan Air Quality Management District (SMAQMD). While significance thresholds established in the Sacramento area are not binding on the City of Orland, they are instructive for comparison purposes. Furthermore, the Sacramento area is located in the same air basin as the proposed Pilot Flying J Travel Center and is therefore generally representative of the meteorological conditions at the site. Potential operational air toxic concentration impacts from project-generated diesel PM were similarly evaluated by comparing estimated diesel PM concentrations with the significance thresholds established by the SMAQMD. (See **Appendix 3.1-B** for dispersion model details and outputs.)

Additionally, the Pilot Flying J Travel Center proposes a 10-diesel pump station, a 12-auto pump station, and 2 RV pumps. Fueling stations are a source of gasoline vapors that would include benzene, the primary TAC associated with gas stations. Gasoline vapors are also a source of the chemical emissions, toluene and xylene; however, these substances are not carcinogenic and are therefore not considered TACs. Nonetheless, their exposure can still result in negative non-cancer health effects. Gasoline vapors would be released during the filling of the proposed stationary aboveground and underground storage tanks as well as during the transfer from those tanks to individual vehicles. The emissions of benzene, toluene, and xylene were calculated using the EPA's AERMOD air pollutant dispersion model for the purpose of evaluating the potential cancer risk associated with benzene and the potential non-cancer risk associated with benzene, toluene, and xylene. Each of these substances is released during the filling of stationary aboveground and underground storage tanks, the transfer from those tanks to individual vehicles, and through accidental spillage. Emission rates of benzene, toluene, and xylene were obtained from the Mall Health Risk Screening Tool authored by the San Joaquin Valley Air Pollution Control District (2012) and coupled with the amount of fuel that would be dispensed from the proposed travel center, as estimated by the applicant. Potential operational health risk impacts from gasoline vapors on surrounding land uses in proximity to the travel center site were evaluated using the California Air Pollution Control Officers Association's (CAPCOA) (2009) Health Risk Assessments for Proposed Land Use Projects, CAPCOA's (1997) Gasoline Service Station Industry-Wide Risk Assessment Guidelines, and the California Office of Environmental Health Hazard Assessment (OEHHA) (2003) Tier I risk assessment methodology. (See **Appendix 3.1-B** for dispersion model details and outputs.)

The potential development allowed with the Westside Annexation Area was not modeled for air toxics because of the need for specific development parameters to appropriately model for the dispersion of air toxics (i.e., specific amount of acreage being developed simultaneously, rates of ground disturbance, distance to sensitive receptors, specific traffic trip numbers, etc.). As previously stated, no development projects are proposed for the Westside Annexation Area at this time. Due to the nature of dispersion modeling, estimating the amount and movement of such toxics and identifying their health risk associated with future theoretical development would be overly speculative and possibly misleading. Nonetheless, a qualitative discussion of potential air toxic–related impacts associated with the Westside Annexation Area is provided (see Impacts 3.1.5 and 3.1.6).

PROJECT IMPACTS AND MITIGATION MEASURES

Conflict with the 2012 Air Quality Attainment Plan (Standard of Significance 1)

Impact 3.1.1 The proposed project would not conflict with or obstruct implementation of the 2012 Air Quality Attainment Plan. This impact is considered to be **less than significant**.

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The North Sacramento Valley Planning Area (NSVPA) 2012 Air Quality Attainment Plan is the most recent air quality planning document covering Glenn County (SVBAPCC 2013). Air quality attainment plans are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards for ozone and particulate matter. State law makes CARB the lead agency for all purposes related to the Air Quality Attainment Plan. Local air districts prepare air quality attainment plans and submit them to CARB for review and approval. The NSVPA 2012 Air Quality Attainment Plan includes forecast ROG and NO_x emissions (ozone precursors) for the entire NSVPA region through the year 2020. These emissions are not appropriated by county or municipality. As previously stated, the Glenn County portion of the NSVPA is classified as achieving attainment for state and federal ozone standards (see **Table 3.1-4**).

The consistency of both the development allowed in the Westside Annexation Area and the Pilot Flying J project with the NSVPA 2012 Air Quality Attainment Plan is determined by their consistency with air pollutant emission projections in the 2012 Air Quality Attainment Plan. Implementation of the development allowed in the Westside Annexation Area and the Pilot Flying J project could increase vehicle miles traveled, and thus ROG and NO_x emissions, which could conflict with air quality planning efforts associated with the NSVPA 2012 Air Quality Attainment Plan. The plan cites projected O_3 precursor emissions (ROG and NO_x) through the year 2020. For the purposes of this analysis, the resulting emissions of both the development potential in the Westside Annexation Area and the proposed Pilot Flying J project operations were quantified and compared with the NSVPA 2012 Air Quality Attainment Plan 2020 ozone precursor emissions projections.

The 2012 Air Quality Attainment Plan includes control strategies necessary to attain the California ozone standard at the earliest practicable date, as well as developed emissions inventories and associated emissions projections for the North Sacramento Valley Planning Area showing a downtrend for both ROG and NOx.

Westside Annexation Area

Potential development in the Westside Annexation Area would result in long-term emissions from area and mobile emission sources. As illustrated in **Table 3.1-9**, the ozone precursor emissions, ROG and NO_x, would increase as a result of operations of new development in the Westside Annexation Area. The upward trend in O3 precursor emissions is not reflective of the projected O3 emissions reductions documented in the NSVPA 2012 Air Quality Attainment Plan, which projects a 5.35 percent reduction in ROG emissions and a 21.96 percent reduction in NOx emissions from area and mobile sources in the North Sacramento Valley Planning Area by the year 2020 (the latest year projected in the 2012 Air Quality Attainment Plan). However, while operation of the Westside Annexation Area would result in an increase of O_3 precursor emissions, this increase would only total approximately 0.01 tons of ROG and 0.02 tons of NOx daily (see **Appendix 3.4-A** for tons annually). The addition of these emissions projections to the area and mobile source projections documented in the NSVPA 2012 Air Quality Attainment Plan for year 2020 results in an overall 5.34 percent reduction in ROG emissions and a 21.93 percent reduction in NOx emissions from area and mobile sources in the NSVPA. This represents a 0.01 percent increase in ROG emissions and a 0.03 percent increase in NOx emissions compared with existing projections in the NSVPA as a result of the development of the Westside Annexation Area.

It is the intent of the NSVPA 2012 Air Quality Attainment Plan to achieve ozone attainment status. While O_3 precursor emissions are projected to increase as a result of Westside Annexation Area development, this increase is minimal to the point of being insubstantial, as such development would represent a 0.01 percent increase in ROG emissions and a 0.03 percent increase in NOx emissions compared with existing projections in the NSVPA. Therefore, the increase of O_3 precursor emissions would have a statistically unsubstantial effect on the emissions projections of the NSVPA 2012 Air Quality Attainment Plan. In addition, the Glenn County portion of the NSVPA is classified as attainment for O_3 (ROG and NO_x are ozone precursor emissions). The Westside Annexation Area would have a **less than significant** impact on the NSVPA 2012 Air Quality Attainment Plan.

Pilot Flying J Project

Implementation of the proposed Pilot Flying J project would result in long-term emissions from area and mobile emission sources. As illustrated in **Table 3.1-10**, the ozone precursor emissions, ROG and NO_x, would increase as a result of project operations. The upward trend in O_3 precursor emissions is not reflective of the projected O_3 emissions reductions documented in the NSVPA 2012 Air Quality Attainment Plan, which projects a 5.35 percent reduction in ROG emissions and a 21.96 percent reduction in NO_x emissions from area and mobile sources in the Northern Sacramento Valley Planning Area by the year 2020 (the latest year projected in the 2012 Air Quality Attainment Plan). However, while operation of the proposed Pilot Flying J project would result in an increase of O_3 precursor emissions, this increase would only total approximately 0.03 tons of ROG and 0.06 tons of NOx daily (see **Appendix 3.1-A**). The addition of these emissions projections to the area and mobile source projections documented in the Air Quality Attainment Plan for year 2020 results in an overall 5.31 percent reduction in ROG emissions and a 21.88 percent reduction in NOx emissions from area and mobile sources in the NSVPA. This represents a 0.04 percent increase in ROG emissions and a 0.07 percent increase in NOx emissions in the North Sacramento Valley Planning Area as a result of the proposed Pilot Flying J project.

It is the intent of the NSVPA 2012 Air Quality Attainment Plan to achieve ozone attainment status. While O_3 precursor emissions are projected to increase as a result of the project, this increase is minimal to the point of being insubstantial, as the project would represent a 0.04 percent increase in ROG emissions and a 0.07 percent increase in NOx emissions compared with existing projections in the NSVPA. Therefore, since the increase of O_3 precursor emissions would have a statistically unsubstantial effect on the emissions projections of the NSVPA 2012 Air Quality Attainment Plan, this impact is considered **less than significant**.

Mitigation Measures

None required.

Short-Term Construction-Generated Pollutant Emissions Resulting in Violation of Air Quality Standards or Contributing to Existing Violations (Standard of Significance 2)

Impact 3.1.2 Construction activities such as clearing, excavation and grading operations, construction vehicle traffic, and wind blowing over exposed earth would generate exhaust emissions and fugitive particulate matter emissions that would temporarily affect local air quality for adjacent land uses. This will result in a **potentially significant** impact.

Construction associated with both the development allowed in the Westside Annexation Area and the Pilot Flying J project would generate short-term emissions of criteria air pollutants. The criteria pollutant of primary concern in the project area is PM_{10}. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact.

Construction results in the temporary generation of emissions resulting from site grading and excavation, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities, as well as weather conditions and the appropriate application of water.

Westside Annexation Area

Detailed construction schedules for the Westside Annexation Area are not currently known, as no development projects are proposed for this area at this time. However, depending on how future development proceeds, construction-generated emissions associated with the future development potential in the Westside Annexation Area could potentially exceed thresholds of significance. Potential construction-generated emissions associated the development potential in the Westside Annexation Area (see **Table 2.0-1**) were calculated using the default settings for Glenn County in the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Predicted maximum daily construction-generated emissions are summarized in **Table 3.1-6**. This impact discussion assumes full growth potential in the Westside Annexation Area (44,000 square feet of new commercial building space) in order to present the maximum amount of pollutant emissions possible. Thus, the emissions identified in **Table 3.1-6** are considered conservative.

TABLE 3.1-6
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS FOR THE WESTSIDE ANNEXATION AREA (MAXIMUM POUNDS PER DAY)

Construction Activities	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)	Carbon Monoxide (CO)
Pounds per Day (Unmitigated)					
Westside Annexation Area Construction	10.33	36.87	7.26	4.25	28.64
Potentially Level A/B Significant Impact Thresholds	**25/137**	**25/137**	**80/137**	**None**	**None**
Exceed Level A/B Threshold?	No/No	Yes/No	No/No	NA	NA

*Source: CalEEMod version 2013.2.2. See **Appendix 3.1-A** for daily emission model outputs.*

Notes: As stated in Section 2.0, Project Description, for environmental analysis purposes, it is assumed that the Westside Annexation Area has the potential to result in 44,400 square feet of new commercial uses on 1.7 acres.

Based on the modeling conducted, short-term daily emissions associated with the maximum potential development in the Westside Annexation Area would not exceed the Level B significance threshold; however, the Level A significance threshold would be surpassed for NO_X emissions. Development projects estimated to exceed Level A significance thresholds must apply all feasible standard mitigation measures and appropriate best available mitigation measures. Such measures could include, but are not limited to, the following:

- Maintaining all construction equipment in proper tune according to manufacturers' specifications.
- Maximizing, to the extent feasible, the use of diesel construction equipment meeting CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines.
- Ensuring that all adequate dust control measures are implemented in a timely and effective manner during all phases of project development and construction.
- Sufficiently watering all material excavated, stockpiled, or graded to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard.
- Sufficiently watering all areas (including unpaved roads) with vehicle traffic.
- Limiting all on-site vehicles to a speed of 15 miles per hour on unpaved roads.
- Suspending all land clearing, grading, earth-moving, or excavation activities when sustained winds are expected to exceed 20 miles per hour.
- Seeding and/or watering all portions of the development site that have been stripped of vegetation by construction activities and left inactive for more than 10 days.
- Covering or maintaining at least 2 feet of freeboard (i.e., minimum vertical distance between top of the load and the trailer) in all trucks hauling dirt, sand, soil, or loose material in accordance with the requirements of California Vehicle Code Section 23114.
- Watering or securely covering all material transported off-site to prevent a public nuisance.
- Installing wheel washers where project vehicles and/or equipment enter and/or exit onto paved streets from unpaved roads.

No development projects are proposed in the Westside Annexation Area at this time. Any new development proposals in the Westside Annexation Area would be subject to all feasible standard mitigation measures and appropriate best available mitigation measures (see **MM 3.1.2**). Therefore, construction-generation air quality impacts would be **less than significant** in the Westside Annexation Area.

Pilot Flying J Project

Construction-generated emissions associated with development occurring as a result of the Pilot Flying J project could potentially exceed thresholds of significance. Construction-generated emissions associated with the proposed project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Modeling was based primarily on the default settings in the computer program for Glenn County. However, as noted in Section 2.0, Project Description, construction of the proposed travel center would be completed in one phase over an approximately 4.5-month time frame and this is accounted for in the modeling program. Construction equipment requirements and usage rates used in the model were based on model default assumptions. Predicted maximum daily construction-generated emissions for the proposed project are summarized in **Table 3.1-7**.

TABLE 3.1-7
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS FOR THE PILOT FLYING J TRAVEL CENTER (UNMITIGATED MAXIMUM POUNDS PER DAY)

Construction Activities	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)	Carbon Monoxide (CO)
Pounds per Day (Unmitigated)					
Pilot Flying J Construction	6.34	54.72	21.15	12.67	42.19
Potentially Level A/B Significant Impact Thresholds	**25/137**	**25/137**	**80/137**	**None**	**None**
Exceed Level A/B Threshold?	No/No	Yes/No	No/No	NA	NA

*Source: CalEEMod version 2013.2.2. See **Appendix 3.1-A** for daily emission model outputs. Construction emissions account for the construction of a 10-diesel pump station, a 12-auto pump station, 2 RV pumps, 2,605 square feet of fast-food restaurant space, 1,215 square feet of deli space, 9,144 square feet of retail/truck stop services, and 61 parking spaces on 7.5 acres.*

Based on the modeling conducted, during construction, short-term daily emissions associated with the development of the Pilot Flying J Travel Center would not exceed the Level B significance threshold; however, the Level A significance threshold would be surpassed for NO_X emissions. Development projects estimated to exceed Level A significance thresholds must apply all feasible standard mitigation measures and appropriate best available mitigation measures. Therefore, the following mitigation is required.

Mitigation Measures

MM 3.1.2 To reduce short-term air quality impacts attributable to the proposed project, the following measures shall be implemented during project construction:

- During all construction activities, all diesel-fueled construction equipment, including but not limited to rubber-tired dozers, graders, scrapers, excavators, asphalt paving equipment, cranes, and tractors, shall be California Air Resources Board (CARB) Tier 3 Certified or better as set forth in Section 2423 of Title 13 of the California Code of Regulations and Part 89 of Title 40 of the Code of Federal Regulations.[1]

- All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. Equipment maintenance records shall be kept on-site and made available upon request by the City of Orland.

[1] NO_x emissions are primarily associated with use of diesel-powered construction equipment (e.g., graders, excavators, rubber-tired dozers, tractor/loader/backhoes). The Clean Air Act of 1990 directed the EPA to study, and regulate if warranted, the contribution of off-road internal combustion engines to urban air pollution. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the EPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis-Con, and Yanmar). On August 27, 1998, the EPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 horsepower and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards.

- All material excavated, stockpiled, or graded shall be sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering shall occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.

- All areas (including unpaved roads) with vehicle traffic shall be watered periodically or have dust palliatives applied for stabilization of dust emissions.

- All on-site vehicles shall be limited to a speed of 15 miles per hour on unpaved roads.

- All land clearing, grading, earth-moving, or excavation activities on the project site shall be suspended when sustained winds are expected to exceed 20 miles per hour.

- All portions of the development site that have been stripped of vegetation by construction activities and left inactive for more than 10 days shall be seeded and/or watered until a suitable grass cover is established.

- All trucks hauling dirt, sand, soil, or loose material shall be covered or shall maintain at least 2 feet of freeboard (i.e., minimum vertical distance between top of the load and the trailer) in accordance with the requirements of California Vehicle Code Section 23114. This provision will be enforced by local law enforcement agencies.

- All material transported off-site shall be either sufficiently watered or securely covered to prevent a public nuisance.

- Wheel washers shall be installed where project vehicles and/or equipment enter and/or exit onto paved streets from unpaved roads. Vehicles and/or equipment shall be washed prior to each trip.

- Prior to final occupancy, the applicant shall re-establish ground cover on the construction site through seeding and watering.

- Off-road construction equipment shall not be left idling for periods longer than 5 minutes when not in use.

Timing/Implementation: *During the construction period*

Monitoring/Enforcement: *City of Orland Planning Department*

Implementation of mitigation measure **MM 3.1.2** would substantially reduce impacts resulting from construction-generated emissions associated with project construction as shown in **Table 3.1-8**.

TABLE 3.1-8
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS FOR THE PILOT FLYING J TRAVEL CENTER (MITIGATED MAXIMUM POUNDS PER DAY)

Construction Activities	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)	Carbon Monoxide (CO)
Pilot Flying J Construction – Mitigated	6.34	19.54	7.96	4.78	28.14
Percentage Reduction	0%	62%	62%	61%	31%

*Source: CalEEMod version 2013.2.2. See **Appendix 3.1-A** for daily emission model outputs. Construction emissions account for the construction of a 10-diesel pump station, a 12-auto pump station, 2 RV pumps, 2,605 square feet of fast-food restaurant, 1,215 square feet of deli, 9,144 square feet of retail/truck stop services, and 61 parking spaces on 7.5 acres.*

As previously stated, construction-generated emissions associated with the development of the Pilot Flying J Travel Center would not exceed the Level B significance threshold. While the Level A significance threshold would be surpassed for NO_x emissions, feasible standard mitigation measures and appropriate best available mitigation measures would be implemented as required by mitigation measure **MM 3.1.2**. Therefore, impacts from construction-generated air pollutants would be **less than significant**.

Long-Term Operational Emissions of Air Pollutants Resulting in Violation of Air Quality Standards or Contributing to Existing Violations (Standard of Significance 2)

Impact 3.1.3 Project-generated operational emissions would not exceed applicable significance thresholds. As a result, this impact is considered **potentially significant.**

Implementation of the project would result in long-term operational emissions of criteria air pollutants and ozone precursors. Project-generated increases in emissions would be predominantly associated with motor vehicle use. To a lesser extent, area sources, such as the use of natural-gas-fired appliances, landscape maintenance equipment, and architectural coatings, would also contribute to overall increases in emissions.

Westside Annexation Area

Operational-generated emissions associated with the development potential in the Westside Annexation Area could potentially exceed thresholds of significance. Potential operational emissions associated the potential new development in the Westside Annexation Area (see **Table 2.0-1**) were calculated using the default settings for Glenn County in the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects. Predicted maximum daily emissions are summarized in **Table 3.1-9**. This impact discussion assumes full growth potential in the Westside Annexation Area in order to present the maximum amount of pollutant emissions possible. Thus, the emissions identified in **Table 3.1-9** are considered conservative.

TABLE 3.1-9
LONG-TERM OPERATIONAL EMISSIONS FOR THE WESTSIDE ANNEXATION AREA
(POUNDS PER DAY)

Source	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)	Carbon Monoxide (CO)
Westside Annexation Area Allowable Development – Summer Emissions					
Area Source	1.22	0.00	0.00	0.00	0.00
Energy Use	0.01	0.13	0.01	0.01	0.11
Mobile Source	14.58	33.18	6.92	2.14	123.14
Total	**15.82**	**33.32**	**6.93**	**2.15**	**123.26**
Westside Annexation Area Allowable Development – Winter Emissions					
Area Source	1.22	0.00	0.00	0.00	0.00
Energy Use	0.01	0.13	0.01	0.01	0.11
Mobile Source	16.19	36.52	6.92	2.14	167.16
Total	**17.42**	**36.65**	**6.93**	**2.15**	**167.27**
Potentially Significant Impact Threshold (Daily Emissions)	**25/137**	**25/137**	**80/137**	**None**	**None**
Exceed Daily Threshold?	No/No	Yes/No	No/No	NA	NA

*Source: CalEEMod version 2013.2.2. See **Appendix 3.1-A** for daily emission model outputs.*

Notes: As stated in Section 2.0, Project Description, for environmental analysis purposes, it is assumed that the Westside Annexation Area has the potential to result in 44,000 square feet of new commercial uses on 1.7 acres.

Based on the modeling conducted, daily operational emissions associated with the maximum allowable development in the Westside Annexation Area would not exceed the Level B significance threshold; however, the Level A significance threshold would be surpassed for NO_x emissions. Development projects estimated to exceed Level A significance thresholds must apply all feasible standard mitigation measures and appropriate best available mitigation measures. Such measures could include, but are not limited to, the installation of bike lanes, bicycle parking, the installation of a pedestrian network, and/or traffic calming mechanisms. However, no specific development projects are proposed in the Westside Annexation Area at this time. Any new development proposals in the Westside Annexation Area would be subject to all feasible standard mitigation measures and appropriate best available mitigation measures, as appropriate. Therefore, operational air quality impacts would be **less than significant** in the Westside Annexation Area.

Pilot Flying J Project

Operational-generated emissions associated with development of the proposed Pilot Flying J Travel Center could potentially exceed thresholds of significance. Potential operational emissions were calculated using the default settings for Glenn County in the CARB-approved CalEEMod computer program with the exception that estimated traffic trip generation rates are derived from the traffic impact analysis prepared for the project, which estimates 4,145 average daily trips (KD Anderson 2015, p. 15). Predicted maximum daily emissions are summarized in **Table 3.1-10**.

TABLE 3.1-10
LONG-TERM OPERATIONAL EMISSIONS FOR THE PILOT FLYING J TRAVEL CENTER
(POUNDS PER DAY)

Source	Reactive Organic Gases (ROG)	Nitrogen Oxide (NO_X)	Coarse Particulate Matter (PM_{10})	Fine Particulate Matter ($PM_{2.5}$)	Carbon Monoxide (CO)
Proposed Pilot Flying J Travel Center Project – Summer Emissions					
Area Source	4.23	0.00	0.00	0.00	0.01
Energy Use	0.02	0.26	0.02	0.02	0.22
Mobile Source	47.43	113.98	10.64	3.80	457.50
Total	**51.69**	**114.25**	**10.66**	**3.82**	**457.73**
Proposed Pilot Flying J Travel Center Project – Winter Emissions					
Area Source	4.23	0.00	0.00	0.00	0.01
Energy Use	0.02	0.26	0.02	0.02	0.22
Mobile Source	60.54	122.40	10.68	3.84	718.82
Total	**64.80**	**122.66**	**10.70**	**3.86**	**718.82**
Potentially Significant Impact Threshold (Daily Emissions)	**25/137**	**25/137**	**80/137**	**None**	**None**
Exceed Daily Threshold?	Yes/No	Yes/No	No/No	NA	NA

*Source: CalEEMod version 2013.2.2. See **Appendix 3.1-A** for daily emission model outputs.*

Notes: Based on trip generation rates identified in the traffic impact analysis prepared for the project, which estimates 4,145 average daily trips. Vehicle type projections based on the vehicle type mix identified in the traffic impact analysis prepared for the project, which estimates a mix of 59.9% autos and 40.1% trucks.

As shown in **Table 3.1-10**, operational daily emissions associated with the development of the Pilot Flying J Travel Center would not exceed the Level B significance threshold; however, the Level A significance threshold would be surpassed for ROG and NO_X emissions. Development projects estimated to exceed Level A significance thresholds must apply feasible standard mitigation measures and appropriate best available mitigation measures. Therefore, the following mitigation is required.

Mitigation Measures

MM 3.1.3 To reduce operational air quality impacts attributable to the proposed project, the following measures shall be implemented during project operations:

- Signage shall be posted stating the State-mandated prohibition of all project trucks idling in excess of 5 minutes under the Heavy-Duty Vehicle Idling Emission Reduction Program.
- The applicant shall ensure that appropriately sized sidewalks are installed for pedestrian use on all adjacent roadways.
- The applicant shall install employee bicycle parking facilities within 50 feet of the main entrance. At least one bicycle parking space for every 20

vehicle parking spaces shall be installed. Bicycle parking facilities should be easily accessible.

- Electrical outlets shall be installed on the exterior walls of the proposed truck stop services building to promote the use of electric landscape maintenance equipment.

Timing/Implementation: *Ongoing*

Monitoring/Enforcement: *City of Orland Planning Department*

As previously stated, operational emissions associated with the development of the Pilot Flying J Travel Center would not exceed the Level B significance thresholds. While the Level A significance threshold would be surpassed for ROG and NO_x emissions, feasible standard mitigation measures and appropriate best available mitigation measures would be implemented as required by mitigation measure **MM 3.1.3**. Therefore, impacts from operational air pollutants would be **less than significant**.

Exposure of Sensitive Receptors to Near-Term Local Mobile-Source CO Pollutant Concentrations (Standard of Significance 3)

Impact 3.1.4 Implementation of the project would not contribute to localized concentrations of mobile-source CO that would exceed applicable ambient air quality standards. This is considered a **less than significant** impact.

It has long been recognized that carbon monoxide exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours.[2] However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the project vicinity have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the carbon monoxide standard. The analysis prepared for CO attainment in Southern California can be used to assist in evaluating the potential for CO exceedances. The CO hot spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest

[2] Level of service (LOS) is a measure used by traffic engineers to determine the effectiveness of transportation infrastructure. LOS is most commonly used to analyze intersections by categorizing traffic flow with corresponding safe driving conditions. LOS A is considered the most efficient level of service and LOS F the least efficient.

intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the level of service (LOS) in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be LOS E at peak morning traffic and LOS F at peak afternoon traffic. Nonetheless, the analysis concluded that there was no violation of CO standards (SCAQMD 1992).

Westside Annexation Area

The Westside Annexation Area has the potential to result in 44,000 square feet of new commercial uses (see **Table 2.0-1**). This amount of commercial building space would not generate 100,000 vicinity vehicle trips daily, the value studied in the 1992 carbon monoxide plan. According to the CalEEMod emissions software, which employs traffic trip generation data derived from the Institute of Transportation Engineers (2008), standard commercial land uses generate 44.32 weekday trips per 1,000 square feet per day. Therefore, the potential 44,000 square feet of commercial land uses in the Westside Annexation Area could generate 1,950 trips daily (44.32 x 44). This average daily traffic is lower than the values studied in the 1992 plan. Therefore, air quality impacts associated with CO pollutant concentrations would be **less than significant** in the Westside Annexation Area.

Pilot Flying J Project

According to the traffic impact analysis prepared for the project, 4,145 vehicle trips would be generated as a result of the project (KD Anderson 2015). Therefore, the proposed project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day, the value studied in the 1992 carbon monoxide plan, as determined by the traffic impact analysis prepared for the project (KD Anderson 2015). As a result, this impact would be considered **less than significant**.

Mitigation Measures

None required.

Exposure of Sensitive Receptors to Substantial Air Pollutant Concentrations During Construction Activities (Standard of Significance 3)

Impact 3.1.5 Implementation of the proposed project would not result in increased exposure of existing sensitive land uses to construction-source pollutant concentrations that would exceed applicable standards. As a result, this impact is considered **less than significant**.

Sensitive land uses are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Westside Annexation Area

The Westside Annexation Area currently contains existing residential sensitive receptors. Sources of construction-related TACs potentially affecting the sensitive receptors include off-road diesel-powered equipment. Construction of allowable land uses would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for site grading and

excavation, paving, and other construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005).

The use of diesel-powered construction equipment associated with the potential new development in the Westside Annexation Area would be temporary and episodic and would occur over several locations isolated from one another. Additionally, the potential new development in the Westside Annexation Area would occur within a 1.7-acre area. Standard construction projects contained in a site less than 5 acres are generally considered to represent less than significant health risk impacts due to limitations on the off-road diesel equipment able to operate and thus the reduced amount of generated diesel PM, the reduced amount of dust-generating ground disturbance possible compared to larger construction sites, and the reduced duration of construction activities compared to the development of larger sites. Furthermore, future development would be subject to and would comply with California regulations limiting idling to no more than 5 minutes, which would further reduce nearby sensitive receptors' exposure to temporary and variable diesel PM emissions. For these reasons and because diesel fumes disperse rapidly over relatively short distances, diesel PM generated by construction activities, in and of itself, would not be expected to expose sensitive receptors to substantial amounts of air toxics.

Therefore, impacts would be **less than significant** concerning the Westside Annexation Area.

Pilot Flying J Project

Sensitive receptors near the Pilot Flying J site include a single-family residential home to the south (80 feet), with rural residences beyond (600+ feet), a single-family residential home adjacent to the southwest corner of the site (200 feet), and another single-family home adjacent to the northwest corner of the site (215 feet), with a mobile home park beyond (325 feet). In addition, single-family neighborhoods and planned single-family neighborhoods exist on the other side of Interstate 5 and to the east of the site (500+ feet).

Estimated PM_{10} concentrations were modeled as being released by seven equally spaced volume sources (the number of off-road construction equipment pieces estimated by the CalEEMod software) covering the roughly 7.5-acre Pilot Flying J construction site. The AERMOD dispersion model calculated concentrations for the nearest discrete receptors in the vicinity of the proposed travel center site (see **Figure 3.1-1**). The AERMOD program generated an estimate of 24-hour average concentrations using a 1-year data file of hourly weather observations recorded at the Redding Airport. The model results were compared to the significance threshold for construction-generated PM_{10} fugitive dust combined with PM_{10} exhaust (diesel PM). As shown in **Figure 3.1-1**, toxic concentrations at the sensitive receptors in the project site vicinity would not reach a level beyond the health risk threshold of 50 micrograms per cubic meter ($\mu g/m^3$) over a 24-hour period (state and SMAQMD threshold). As shown, the maximum 24-hour period concentration would reach 17.9 $\mu g/m^3$. Therefore, impacts would be **less than significant** concerning the Pilot Flying J Travel Center.

Mitigation Measures

None required.

T:_GS\Work\Orland, City of\Pilot Flying J Travel Center\Figures

PLOT FILE OF HIGH 1ST HIGH 24-HR VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 17.9 [ug/m^3] at (567750.85, 4400473.53)

2.4 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 17.9

COMMENTS:	SOURCES: 14	COMPANY NAME:	
	RECEPTORS: 14	MODELER:	
	OUTPUT TYPE: Concentration		
	MAX: 17.9 ug/m^3	DATE: 12/4/2014	

Source: AERMOD

0 500 1,000 FEET

N

Figure 3.1-1

Construction Particulate Matter Dispersion and Concentration

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Exposure of Sensitive Receptors to Substantial Air Pollutant Concentrations During Operations (Standard of Significance 3)

Impact 3.1.6 Implementation of the proposed project would result in increased exposure of sensitive land uses to stationary or mobile-source pollutant concentrations; however, such pollutant exposure would not exceed applicable standards. As a result, this impact is considered **less than significant**.

As stated above, sensitive land uses are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Westside Annexation Area

Development projects that involve numerous heavy-duty truck trips on-site create substantial quantities of diesel PM emissions, described as a TAC above, and therefore can negatively affect sensitive land uses. Operations associated with the potential development in the Westside Annexation Area include 44,000 square feet of new commercial building space, which would require the use of delivery trucks during normal operations. According to CAPCOA's (2009) Health Risk Assessments for Proposed Land Use Projects, operations that require fewer than 100 delivery trucks daily are not considered a potential health risk.

While the specific commercial use that could be potentially developed in the Westside Annexation Area is not known at this time since no development projects are currently proposed, it is highly unlikely that 44,000 square feet of building space on 1.7 acres would require the need for 100 delivery trucks daily. For instance, Orland Municipal Code Section 17.76.100, Parking and Loading Facilities, states that commercial uses occupying more than 5,000 square feet of floor area must provide one loading space and one additional loading space for every 20,000 square feet of floor area in excess of 5,000 square feet. Each loading space cannot be less than 10 feet wide and 25 feet long and must have 14-foot height clearance. Additionally, sufficient room for turning and maneuvering delivery trucks is required to be provided on-site and all loading spaces must be located at the side or rear of the building, not the front. As the development potential of the Westside Annexation Area is 44,000 square feet of new commercial building space, two loading spaces would be required per Orland Municipal Code Section 17.76.100. In order for two loading spaces to accommodate 100 delivery trucks, the arrival, unloading, and departure of delivery trucks would result in a rate of two deliveries every half hour over the course of 24 hours each day.

Since the operations of 44,000 square feet of commercial building space would not be expected to generated 100 delivery trucks on a daily basis, sensitive receptors would not be exposed to substantial amounts of air toxics. Therefore, impacts would be **less than significant** concerning the Westside Annexation Area.

Pilot Flying J Project

The proposed Pilot Flying J Travel Center would involve numerous heavy-duty truck trips on-site daily and thus diesel PM emissions, described as a TAC above, and therefore could negatively affect sensitive land uses in the vicinity of the site. The estimated number of trucks that would

travel to the travel center site was counted as part of the traffic impact analysis prepared and used for this analysis. The emissions of diesel PM emitted from trucks while they are approaching and departing the travel center on adjacent roadways as well as idling within the site were calculated using the EPA's AERMOD air pollutant dispersion model (see **Appendix 3.1-B** for dispersion model details and outputs).

As previously stated, sensitive receptors near the proposed Pilot Flying J Travel Center site include a single-family residential home to the south (80 feet), with rural residences beyond (600+ feet), a single-family residential home adjacent to the southwest corner of the site (200 feet), and another single-family home adjacent to the northwest corner of the site (215 feet), with a mobile home park beyond (325 feet). In addition, single-family neighborhoods and planned single-family neighborhoods exist on the other side of Interstate 5, to the east of the site (500+ feet). Estimated diesel PM concentrations were modeled as being released by 1,662 heavy-duty trucks daily as they approach the proposed travel center after exiting Interstate 5 and as they depart the travel center and head back to Interstate 5 (0.68 mile total). These estimated diesel PM concentrations are added to those modeled as being released by the same daily heavy-duty truck traffic as idling occurs on the travel center site. All trucks were assumed to idle on-site for 5 minutes in conformance with the California State Heavy-Duty Vehicle Idling Emission Reduction Program, which contains regulations that prohibit idling of heavy-duty trucks beyond 5 minutes. The AERMOD dispersion model calculated concentrations at the nearest discrete receptors in the vicinity of the site (see **Figure 3.1-2a** through **Figure 3.1-3b**). The AERMOD program generated an estimate of the annual average concentrations using a 1-year data file of hourly weather observations recorded at the Redding Airport. The model results were compared to the significance thresholds for operational diesel PM. As shown in **Table 3.1-11**, the maximum toxic concentrations at the sensitive receptors in the project site vicinity would not reach a level beyond the health risk significance thresholds.

TABLE 3.1-11
MAXIMUM DIESEL PM CONCENTRATIONS FROM PROJECT HEAVY-DUTY TRUCK TRAFFIC

Activity	Pollutant Concentration (Annual Average)
Exhaust PM_{10}	
Local Circulation	0.594
On-Site Idling	0.473
Total	**1.067**
Significance Threshold	*20 $\mu g/m^3$ Annual Average*
Exceed Threshold?	**No**
Exhaust $PM_{2.5}$	
Local Circulation	0.594
On-Site Idling	0.236
Total	**0.83**
Significance Threshold	*12 $\mu g/m^3$ Annual Average*
Exceed Threshold?	**No**

*Source: Diesel PM concentrations were modeled with the AERMOD software. See **Appendix 3.1-B** for dispersion emission model outputs and details.*

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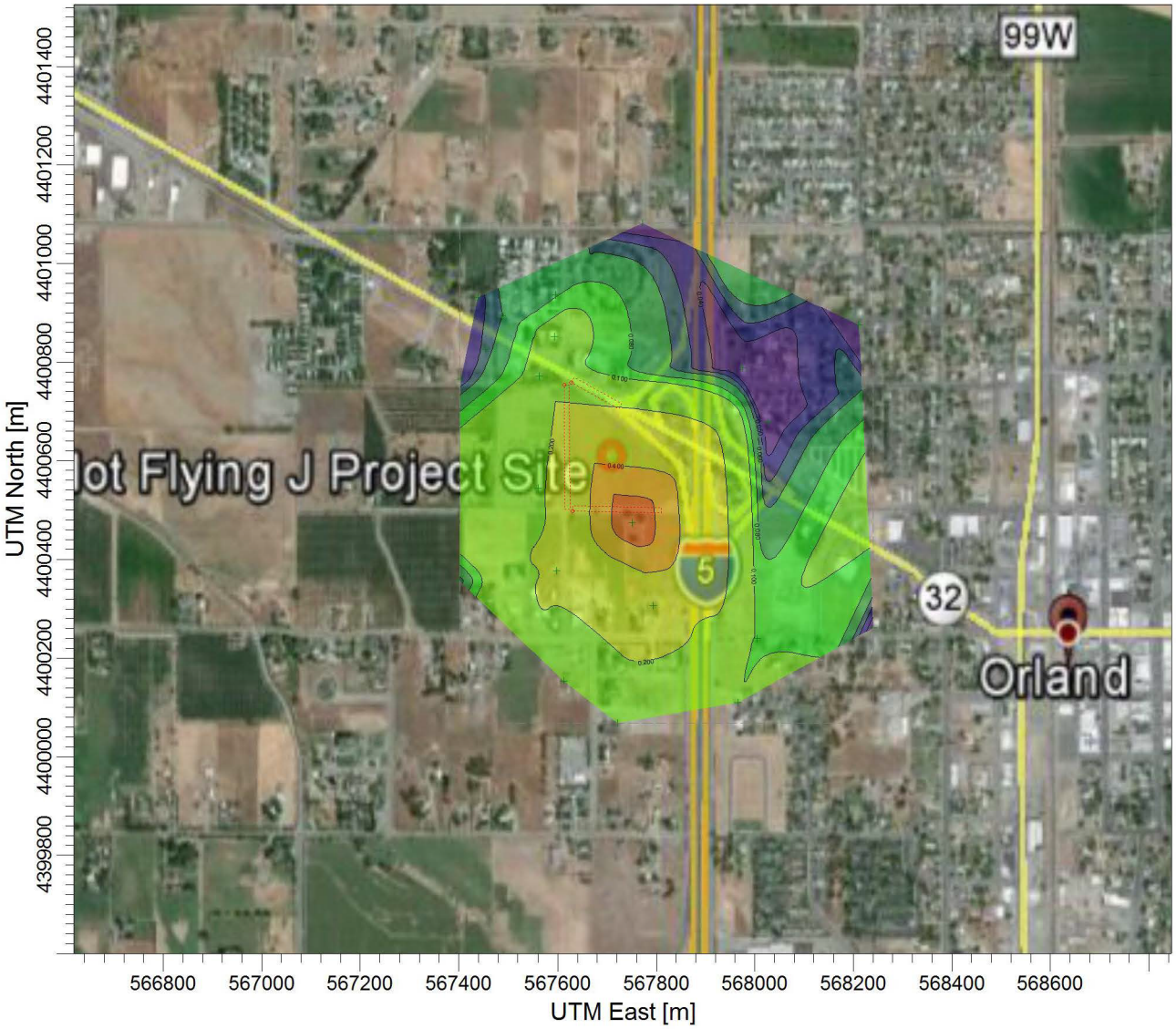
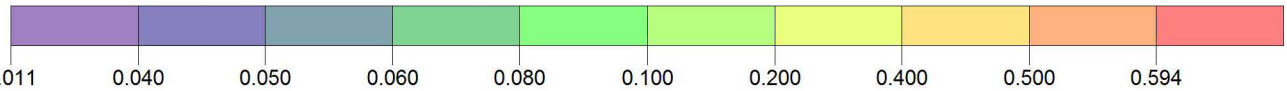


PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 0.594 [ug/m^3] at (567750.85, 4400473.53)



COMMENTS:	SOURCES: 3	COMPANY NAME:	
	RECEPTORS: 22	MODELER:	
	OUTPUT TYPE: Concentration		
	MAX: 0.594 ug/m^3	DATE: 1/14/2015	

Source: AERMOD

0 500 1,000
FEET

N

Figure 3.1-2a

Local Circulation Particulate Matter Dispersion and Concentration – PM10

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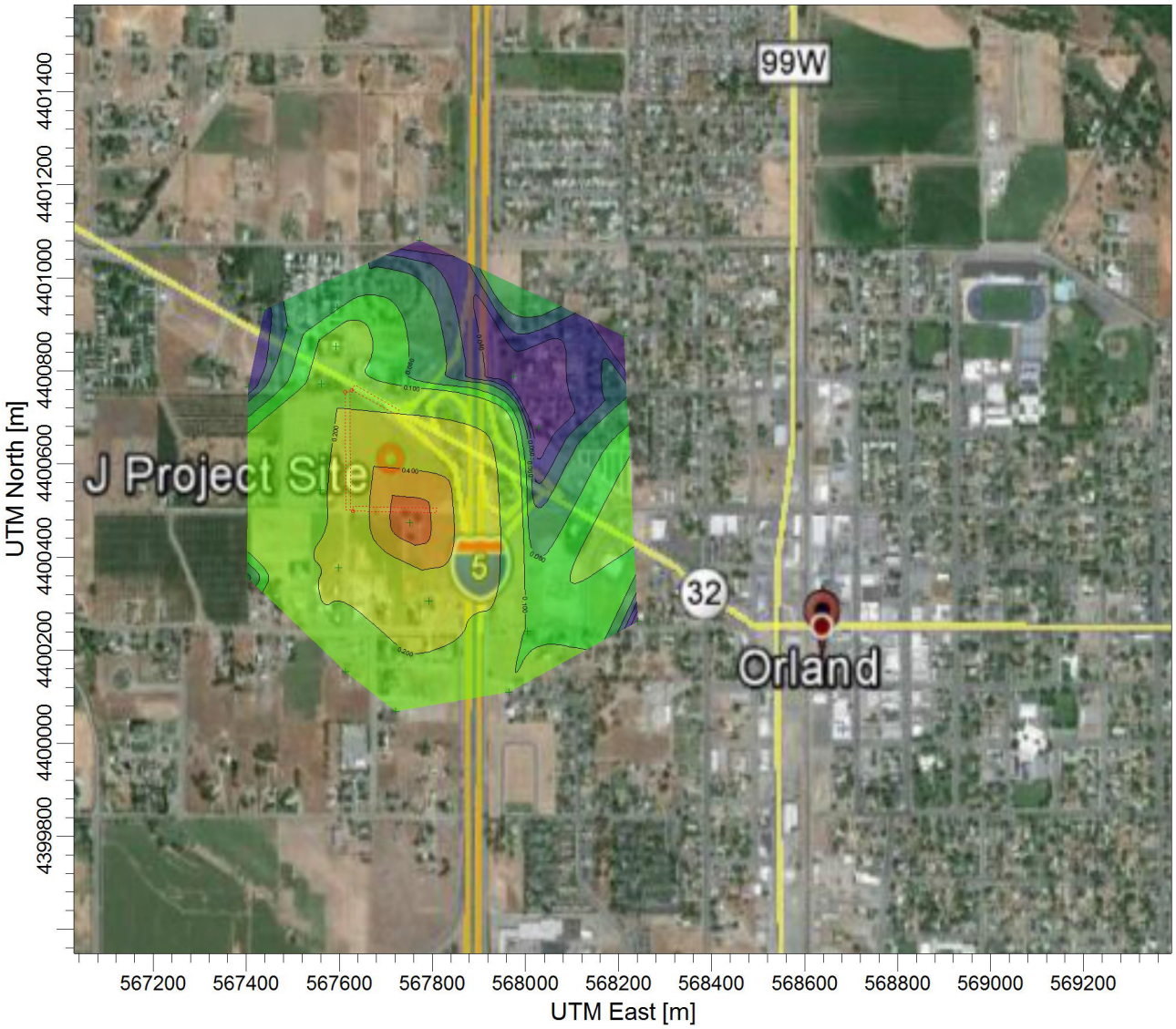
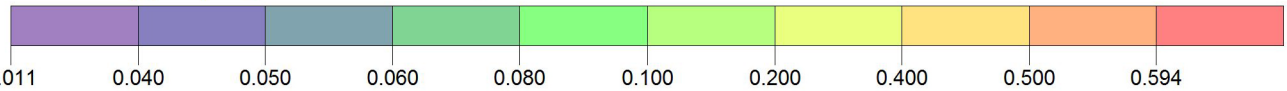


PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 0.594 [ug/m^3] at (567750.85, 4400473.53)



COMMENTS:	SOURCES: 3	COMPANY NAME:	
	RECEPTORS: 22	MODELER:	
	OUTPUT TYPE: Concentration		
	MAX: 0.594 ug/m^3	DATE: 1/14/2015	

Source: AERMOD

0 500 1,000
FEET

N

Figure 3.1-2b

Local Circulation Particulate Matter Dispersion and Concentration – PM2.5

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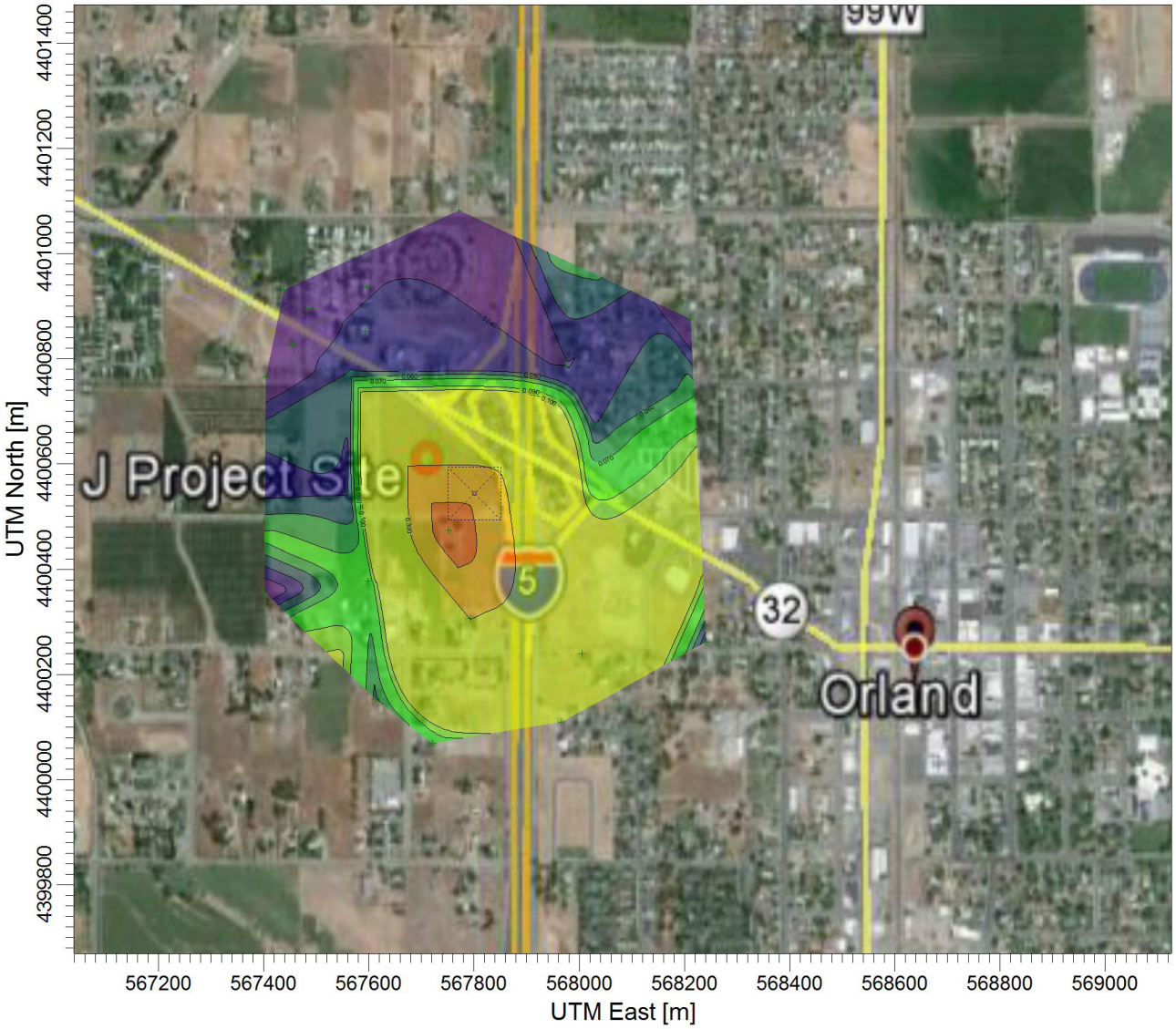

PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 0.474 [ug/m^3] at (567751.36, 4400473.55)

0.018 0.040 0.050 0.060 0.070 0.090 0.100 0.300 0.400 0.474

COMMENTS:	SOURCES: 1	COMPANY NAME:	
	RECEPTORS: 22	MODELER:	
	OUTPUT TYPE: Concentration		
	MAX: 0.474 ug/m^3	DATE: 1/13/2015	

Source: AERMOD

0 500 1,000 FEET

N

Figure 3.1-3a

On-Site Idling Particulate Matter Dispersion and Concentration – PM10

PMC®

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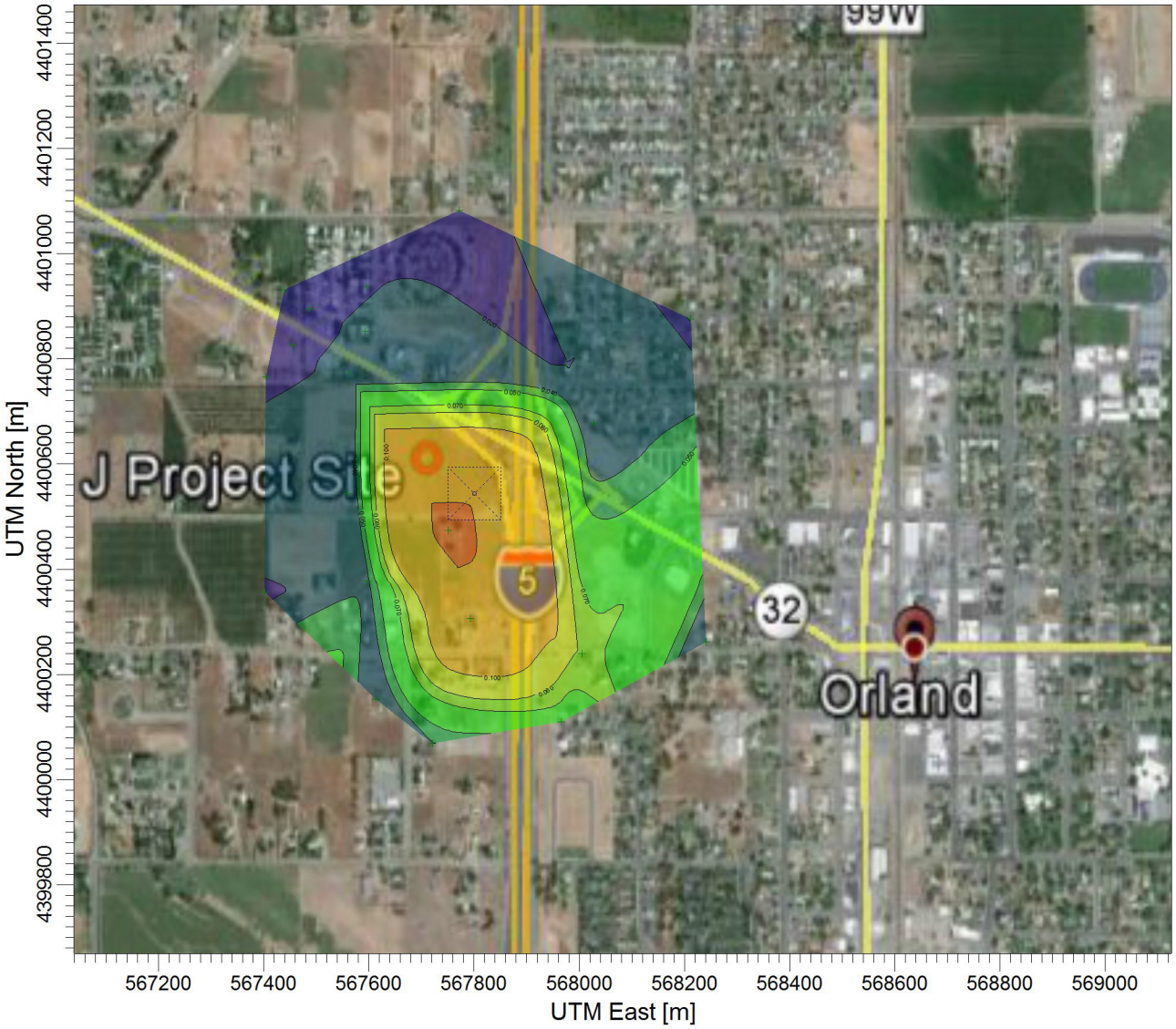

PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 0.237 [ug/m^3] at (567751.36, 4400473.55)

0.009 0.010 0.020 0.040 0.050 0.070 0.080 0.100 0.200 0.237

COMMENTS:	SOURCES: 1	COMPANY NAME:	
	RECEPTORS: 22	MODELER:	
	OUTPUT TYPE: Concentration		
	MAX: 0.237 ug/m^3	DATE: 1/13/2015	

Source: AERMOD

0 500 1,000 FEET

N

Figure 3.1-3b

On-Site Idling Particulate Matter Dispersion and Concentration – PM2.5

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In addition, it is noted that emissions projected to result from operation of the proposed travel center are primarily the result of heavy-duty truck traffic. The EPA and the National Highway Transportation Safety Administration (NHTSA) have announced fuel economy standards for medium- and heavy-duty trucks, which apply to vehicles in model years 2014–2018. The NHTSA has adopted standards for fuel consumption tailored to each of three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this program will reduce fuel consumption, and thus air pollutant emissions, for affected vehicles by 6 percent to 23 percent. While this analysis does not rely on this program for purposes of mitigating impacts, this program should help further reduce the long-term operational impacts of the project.

Additionally, the Pilot Flying J Travel Center proposes a 10-diesel pump station, a 12-auto pump station, and 2 RV pumps. Fueling stations are a source of gasoline vapors that would include benzene, the primary TAC associated with gas stations. Gasoline vapors are also a source of the chemical emissions, toluene and xylene; however, these substances are not carcinogenic and are therefore not considered TACs. Nonetheless, their exposure can still result in negative non-cancer health effects. Gasoline vapors are released during the filling of stationary aboveground and underground storage tanks as well as during the transfer from those tanks to individual vehicles. The emissions of benzene, toluene, and xylene were calculated using the EPA's AERMOD air pollutant dispersion model (see **Figures 3.1-4** through **3.1-6**) for the purpose of evaluating the potential cancer risk associated with benzene and the potential non-cancer risk associated with benzene, toluene, and xylene. Potential health risk impacts (cancer and non-cancer) associated with gasoline vapors on surrounding land uses in proximity to the Pilot Flying J Travel Center site are evaluated using CAPCOA's (2009) Health Risk Assessments for Proposed Land Use Projects, CAPCOA's (1997) Gasoline Service Station Industry-Wide Risk Assessment Guidelines (1997), and the OEHHA (2003) Tier I risk assessment methodology. (See **Appendix 3.1-B** for dispersion model details and outputs.)

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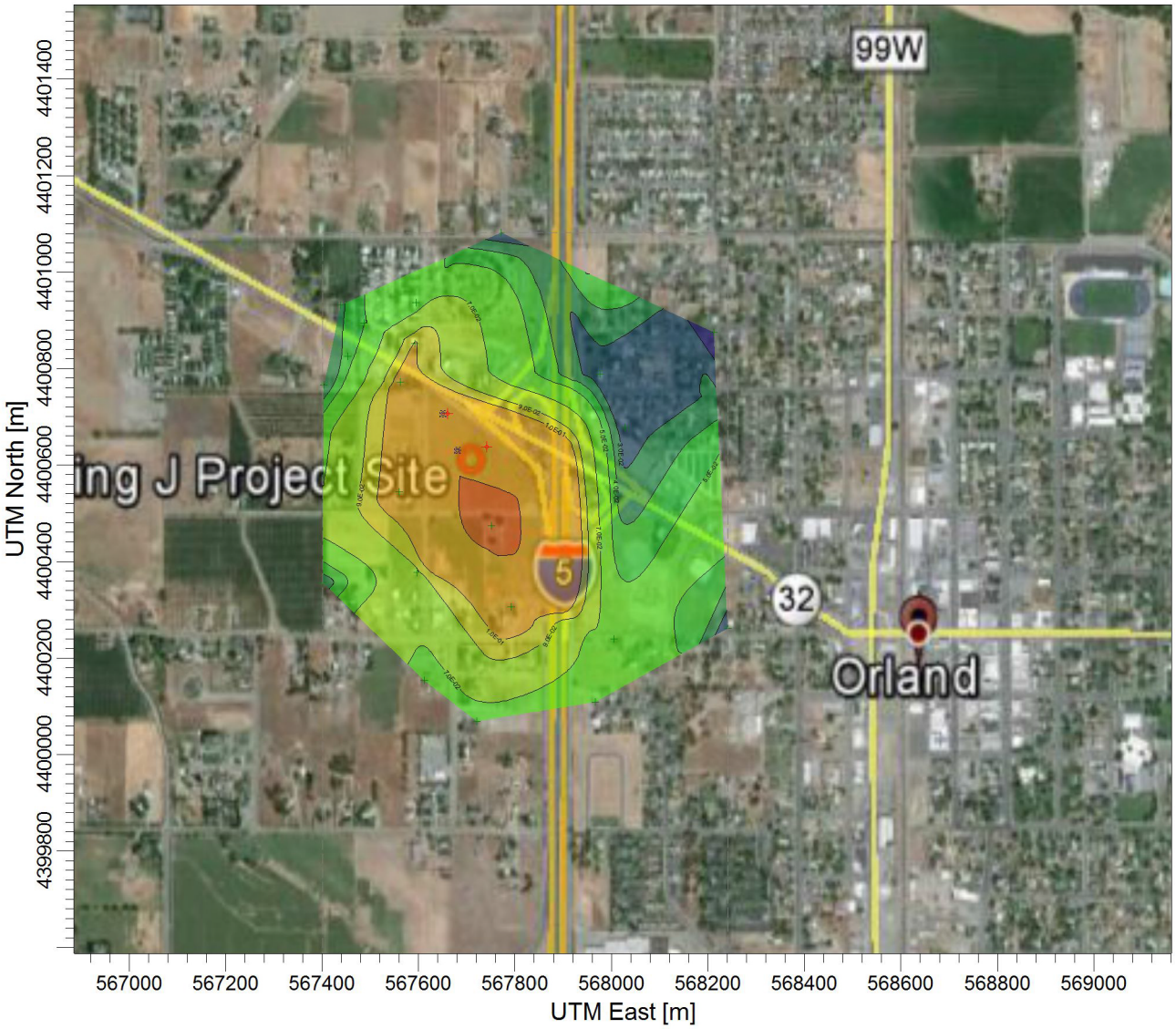

PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL ug/m^3

Max: 2.5E-01 [ug/m^3] at (567750.85, 4400473.53)

9.7E-03 1.0E-02 2.0E-02 3.0E-02 4.0E-02 5.0E-02 7.0E-02 9.0E-02 1.0E-01 2.0E-01 2.5E-01

COMMENTS:	SOURCES: 8	COMPANY NAME:	
	RECEPTORS: 22	MODELER:	
	OUTPUT TYPE: Concentration		
	MAX: 2.5E-01 ug/m^3	DATE: 1/15/2015	

Source: AERMOD

0 500 1,000 FEET

N

Figure 3.1-4

Benzene Dispersion and Concentration

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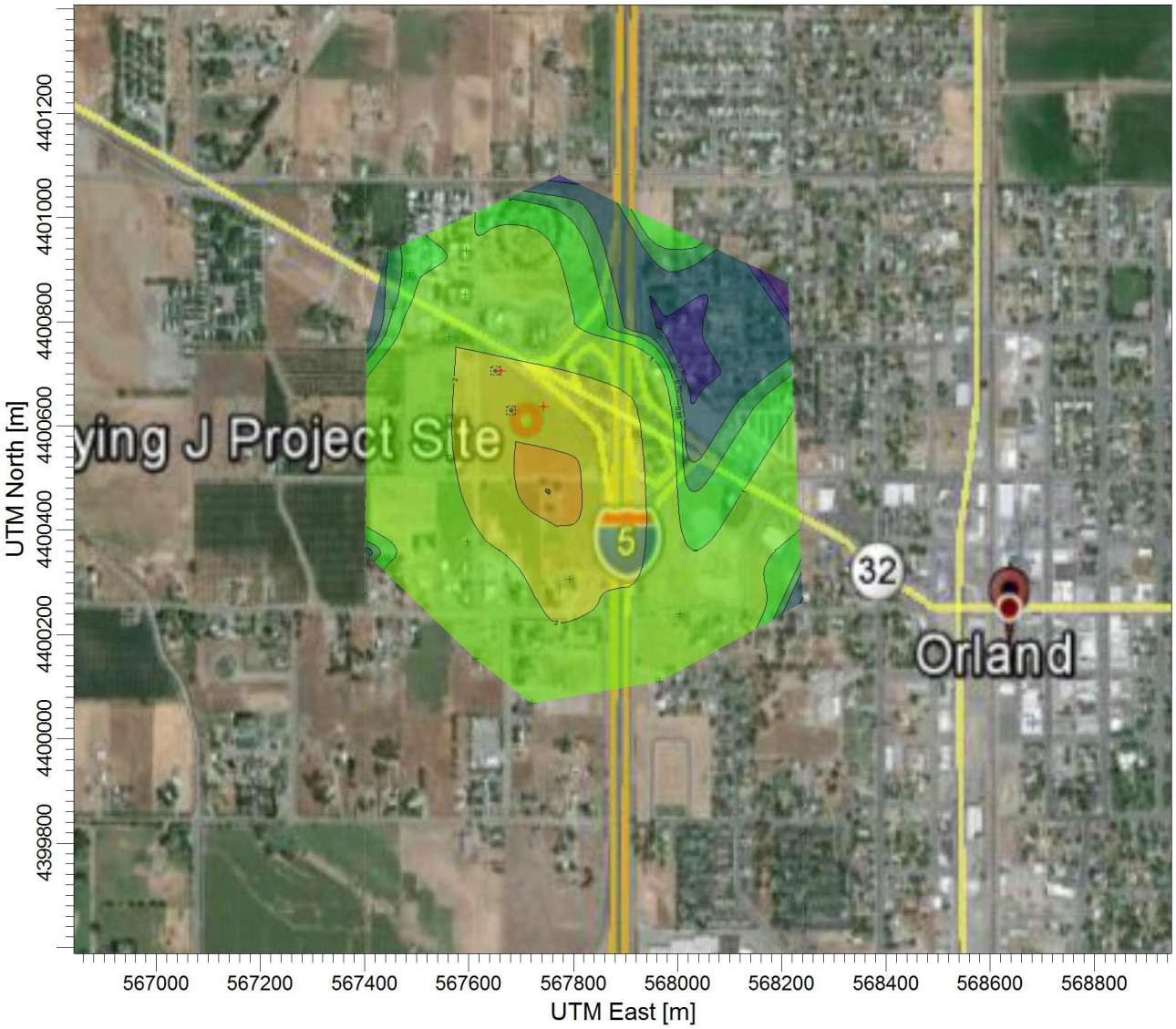
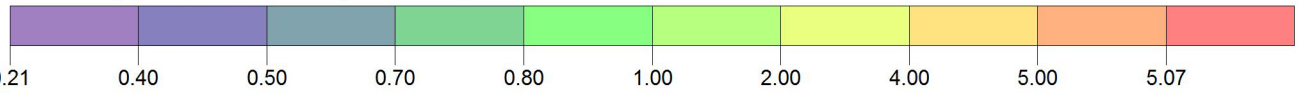


PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 5.07 [ug/m^3] at (567750.85, 4400473.53)



COMMENTS:	SOURCES:	COMPANY NAME:
	8	
	RECEPTORS:	MODELER:
	22	
	OUTPUT TYPE:	
	Concentration	
	MAX:	DATE:
	5.07 ug/m^3	**1/15/2015**

Source: AERMOD

0 500 1,000
FEET

N

Figure 3.1-5

Toluene Dispersion and Concentration

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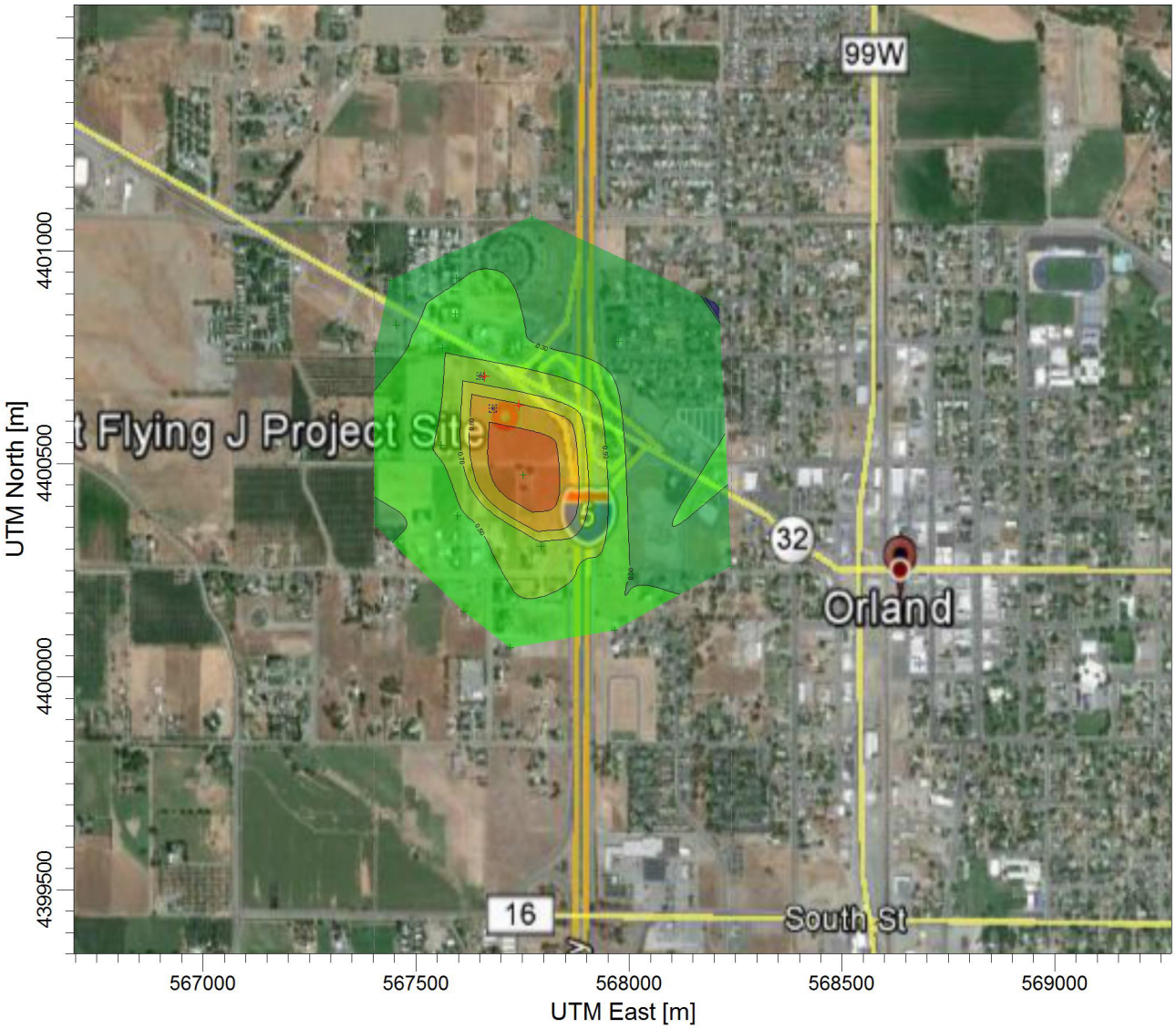
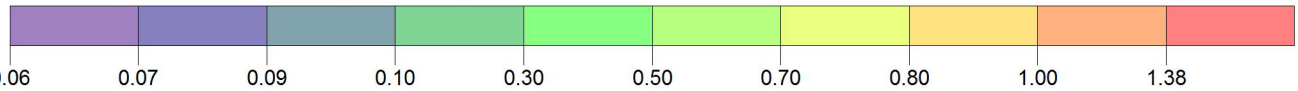


PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 1.38 [ug/m^3] at (567750.85, 4400473.53)



COMMENTS:	SOURCES: 8	COMPANY NAME:	
	RECEPTORS: 22	MODELER:	
	OUTPUT TYPE: Concentration		
	MAX: 1.38 ug/m^3	DATE: 1/15/2015	

Source: AERMOD

0 500 1,000
FEET

N

Figure 3.1-6

Xylene Dispersion and Concentration

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This probability is usually expressed in terms of the number of people who will develop cancer per one million people who are also exposed. It is important to understand that this cancer risk represents the probability that a person develops some form of cancer; the estimated risk does not represent actual mortality rates. **Table 3.1-12** shows the estimated cancer risk to the five receptors subject to the highest benzene concentrations attributable to the proposed Pilot Flying J Travel Center.

TABLE 3.1-12
CANCER RISK AT RECEPTORS IN PROJECT VICINITY FROM PROJECT-GENERATED BENZENE VAPORS

Receptors	Benzene Concentration (Annual Average)	Predicted Cancer Risk per Million
Single-Family Residence (at Road 13 south of the site)	0.249 $\mu g/m^3$	4.94
Single-Family Residence (at Road 14 south of the site)	0.115 $\mu g/m^3$	2.28
Single-Family Residence (at Road HH southwest of the site)	0.111 $\mu g/m^3$	2.20
Single-Family Residence (at Road 200 northwest of the site)	0.107 $\mu g/m^3$	2.12
Mobile Home Park (at Road 200 northwest of the site)	0.101 $\mu g/m^3$	2.01
Potentially Significant Impact Threshold	10	
Exceed Threshold?	**No**	

Source: Benzene concentrations were modeled with AERMOD software; cancer risk was calculated per OEHHA Tier 1 risk assessment methodology for "residents."

As shown in **Table 3.1-12**, the estimated maximum individual cancer risk does not exceed the cancer risk threshold of 10 in one million at any of the vicinity receptors.

Non-Cancer Risk

Non-cancer risks can be described as acute (short-term, generally 1-hour peak exposure) or chronic (long-term exposure, defined as 12 percent of a lifetime or about 8 years for humans) health impacts. This analysis uses the acute and chronic reference exposure levels (REL) developed by the OEHHA for determining the non-cancer health impacts of toxic substances. Exceeding the acute or chronic REL does not necessarily indicate that an adverse health impact will occur; however, levels of exposure above the REL have an increasing but undefined probability of resulting in an adverse health impact, particularly in sensitive individuals. For benzene, there is no value for the acute REL, and the chronic REL is 71 $\mu g/m^3$. Therefore, non-cancer health risks are expected when people are exposed to benzene concentrations greater than 71 $\mu g/m^3$. For toluene, there is also no value for the acute REL; the chronic REL is 200 $\mu g/m^3$. Therefore, non-cancer health risks are expected when people are exposed to toluene concentrations greater than 200 $\mu g/m^3$. For xylene, the acute REL is 300 and the chronic REL is 4,400 $\mu g/m^3$.

Since the hazard index is the ratio between the vapor concentration at each receptor (estimated using AERMOD) and the REL, non-cancer health risks are significant if the hazard index exceeds 1.0. This threshold for significance is sanctioned by CARB explicitly to determine the non-cancerous health impacts attributable to projects that introduce new sources of pollutant emissions in an area.

The relationship for the non-cancer health effects of benzene, toluene, and xylene are given by the following equation:

$$HI_{air} = C_{air} / REL_{air}$$

HI_{air} Hazard Index; an expression of the potential for non-cancer health effects

C_{air} Annual average pollutant concentration in µg/m^3

REL_{air} REL for benzene, toluene, and xylene; the pollutant concentration at which no adverse health effects are anticipated

Table 3.1-13 shows the estimated non-cancer risk to the receptors subject to the highest benzene, toluene, and xylene concentrations attributable to the proposed travel center.

TABLE 3.1-13
NON-CANCER RISK AT RECEPTORS IN PROJECT VICINITY FROM PROJECT-GENERATED BENZENE, TOLUENE, AND XYLENE VAPORS

Receptors	Benzene Predicted Non-Cancer Risk Hazard Index	Toluene Predicted Non-Cancer Risk Hazard Index	Xylene Predicted Non-Cancer Risk Hazard Index	
	Chronic Risk (Concentration ÷ 71)	Chronic Risk (Concentration ÷ 200)	Chronic Risk (Concentration ÷ 300)	Acute Risk (Concentration ÷ 4,400)
Single-Family Residence (at Road 13 south of the site)	0.003	0.02	0.004	0.0003
Single-Family Residence (at Road 14 south of the site)	0.001	0.01	0.002	0.0001
Single-Family Residence (at Road HH southwest of the site)	0.001	0.01	0.001	0.0001
Single-Family Residence (at Road 200 northwest of the site)	0.001	0.01	0.001	0.0001
Mobile Home Park (at Road 200 northwest of the site)	0.001	0.01	0.001	0.0001
Potentially Significant Impact Threshold	1.0			
Exceed Threshold?	**No**			

Source: Pollutant concentrations were modeled with AERMOD software; non-cancer risk was calculated per OEHHA Tier 1 risk assessment methodology.

As shown in **Table 3.1-13**, the estimated maximum individual non-cancer risk does not exceed the non-cancer risk hazard index of 1.0 at any of the vicinity receptors. In addition, a combined benzene, toluene, and xylene non-cancer risk would also not exceed the hazard index of 1.0.

The proposed travel center would not result in impacts associated with health risks, as no significance threshold would be surpassed.

For the reasons described above, no component of the proposed project, i.e., the potential development associated with the Westside Annexation Area or the Pilot Flying J Travel Center, would result in substantial concentrations of air pollutants that would instigate a health risk impact. This impact would be **less than significant**.

Mitigation Measures

None required.

Create Objectionable Odors Affecting a Substantial Number of People (Standard of Significance 4)

Impact 3.1.7 The proposed project would not include sources that could create objectionable odors affecting a substantial number of people or expose new residents to existing sources of odor. Thus, this impact is considered to have **no impact**.

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Westside Annexation Area

Heavy-duty construction equipment used for the construction of the growth potential in the Westside Annexation Area would emit odors. However, construction activity would be short term and finite in nature. Furthermore, equipment exhaust odors would dissipate quickly and are common in a suburban environment. For these reasons, potential development in the Westside Annexation Area is not anticipated to create objectionable odors affecting a substantial number of people and thus is considered less than significant.

With respect to permanent odor sources, land uses recognized a sources of odors include wastewater treatment plants, wastewater pumping facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing and fiberglass manufacturing facilities, painting/coating operations, rendering plants, coffee roasters, food processing facilities, confined animal facilities, feedlots, dairies, green waste and recycling operations, and metal smelting plants. Potential new land uses in the Westside Annexation Area include commercial. Therefore, there would be **no impacts** from the Westside Annexation Area.

Pilot Flying J Project

Heavy-duty construction equipment used for the construction of the Pilot Flying J Travel Center would emit odors. However, construction activity would be short term and finite in nature. Furthermore, equipment exhaust odors would dissipate quickly and are common in a suburban environment. For these reasons, construction of the Pilot Flying J Travel Center would not create objectionable odors affecting a substantial number of people and thus is considered less than significant.

In terms of operational odor impacts, the project proposes a land use that is not commonly identified as an odor source. In addition, the GCAPCD has adopted a nuisance rule that addresses the exposure of "nuisance or annoyance" air contaminant discharges. The GCAPCD Rule Book (CARB 2013c), Article IV, Section 78, states that no person shall discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or to the public, or that endanger the comfort, repose, health, or safety of any such persons, or the public, or that cause a natural tendency to cause injury or damage to business or property. If public complaints are sufficient to cause the odor source to be considered a public nuisance, then the GCAPCD can require the identified source to incorporate mitigation measures to correct the nuisance condition. Therefore, odor impacts from the proposed project are considered **less than significant**.

Mitigation Measures

None required.

3.1.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for air quality includes existing, approved, proposed, and reasonably foreseeable development in the Northern Sacramento Valley Air Basin, which is a seven-county region. The air districts in the NSVAB have adopted the 2012 Air Quality Attainment Plan. This plan was developed for the purpose of achieving and maintaining healthful air quality throughout the air basin. Like the previous attainment plans, the 2012 plan focuses on the adoption and implementation of control measures for stationary sources, area-wide sources, and indirect sources, and addressed public education and information programs. The 2012 plan also addressed the effect that pollutant transport has on the NSVAB's ability to meet and attain the state standards.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Result in a Cumulatively Considerable Net Increase in Nonattainment Criteria Pollutant (Standard of Significance 5)

Impact 3.1.8 The proposed project, in combination with cumulative development in the NSVAB, would not result in a cumulatively considerable net increase of criteria air pollutants for which the air basin is designated nonattainment. This is considered a **less than cumulatively considerable** impact.

Assessment of cumulative impacts is based on the projected increases in emissions attributable to the two components of the proposed project, as well as the project's consistency with the applicable air quality attainment plan. In other words, an impact of a project is considered less than cumulatively considerable if it does not exceed significance thresholds under project-level conditions and does not conflict with the NSVPA 2012 Air Quality Attainment Plan. As identified under Impacts 3.1.2 and 3.1.3, the project components would not exceed construction or operational significance thresholds, and as shown under Impact 3.1.1, the project would not conflict with the NSVPA 2012 Air Quality Attainment Plan. As identified under Impacts 3.1.5 and 3.1.6, the project would not exceed health risk–related significance thresholds. This impact is **less than cumulatively considerable**.

Mitigation Measures

None required.

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3.2 Biological Resources

This section describes the existing biological resources including special-status species and sensitive habitat known to occur and/or have the potential to occur on and adjacent to the PSA, referred to as the project study area (PSA) in this section of the EIR. The section also includes a summary of the regulations and programs that provide protective measures to special-status species, an analysis of impacts to biological resources that could result from project implementation, and a discussion of mitigation measures necessary to reduce impacts to a less than significant level, where feasible.

3.2.1 EXISTING SETTING

Several steps were taken to characterize the environmental setting in the project vicinity. A reconnaissance-level field survey was conducted on December 15, 2014, to collect site-specific data regarding habitat suitability for special-status species and to identify potential jurisdictional waters. Additional information was obtained from a variety of outside data sources and can be found in the reference list. Preliminary database searches were performed on the following websites to identify special-status species with the potential to occur in the area.

- US Fish and Wildlife Service (USFWS) Sacramento Office's Species List (2014a)
- USFWS Critical Habitat Portal (2014b)
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (2014a)
- California Native Plant Society (CNPS) Inventory of Rare, Threatened, and Endangered Plants of California (2014)

A search of the USFWS Sacramento Office's Species List was performed for the Kirkwood, California, US Geological Survey (USGS) 7.5-minute quadrangle (quad) and all adjacent quads (Orland, Fruto NE, Hamilton City, Vina, Corning, Foster Island, Henleyville, and Black Butte Dam) to identify special-status species under their jurisdiction that may be affected by the proposed project. In addition, a query of the USFWS Critical Habitat Portal was conducted to identify any designated critical habitat on or in the vicinity of the PSA. The CNDDB provided a list of processed and unprocessed occurrences for special-status species in the quadrangles mentioned above. The CNPS database was queried to identify special-status plant species with the potential to occur in the aforementioned USGS quadrangles. Please see **Appendix 3.2** for the raw data returned from the database queries.

REGIONAL SETTING

The PSA is located in the Great Valley ecological section of the California Dry Steppe ecological province (McNab et al. 2007). This province is characterized by dry, hot summers and mild, foggy winters. The regional landscape around the PSA consists of broad, nearly level alluvial plains bordered by gently sloping alluvial fans with elevations ranging from sea level to 500 feet above mean sea level (McNab et al. 2007). Rock formations are derived from nonmarine sedimentary rocks and alluvial deposits. Historically, this region was dominated by bunchgrass prairies. Today, agricultural crops and introduced annual grasses occupy the majority of the remaining grassland areas. Other common natural communities include oak woodland and alkali scrub, as well as vernal pool and wetland communities (McNab et al. 2007). The Great Valley section is subdivided into 26 subsections, including the North Valley Alluvium subsection.

The PSA is located in the North Valley Alluvium ecological subsection, comprising the northern portion of the recent alluvial plain in the Sacramento Valley. Soils are predominantly well drained, with the exception of some floodplains on somewhat poorly drained to moderately drained soils. Natural vegetation has been largely converted to agriculture, but remaining vegetation is characterized by needlegrass grasslands and valley oak woodlands on alluvial plains and Fremont cottonwood riparian communities along streams. Less common natural communities include vernal pools found on terraces. The climate is hot and subhumid, characterized by mean annual temperatures between 59° and 60° Fahrenheit and 16–24 inches of precipitation annually that falls as rain. Streams ultimately drain into the Sacramento River. All but the larger streams are generally dry during the summer. There are no lakes, but there is temporary ponding in vernal pools (Goudey and Miles 1998).

LOCAL SETTING

The PSA is located in the central Sacramento Valley. The valley floor is composed of primarily agricultural and urban land uses. The PSA consists of one undeveloped field bordered to the east by Interstate 5, to the north by Newville Road, and to the west and south by agricultural and rural land uses. The topography on the PSA consists of flat terrain at an elevation of approximately 263 feet above mean sea level. The soils on the PSA are a combination of well-drained and excessively drained soils, including Cortina gravelly fine sandy loam, Wyo gravelly loam, and Wyo loam (USDA-NRCS 2014).

BIOLOGICAL SETTING

Vegetative communities are assemblages of plant species that occur in the same area and are defined by species composition and relative abundance. The PSA is composed entirely of annual grassland. Habitat (vegetative community) classifications were assigned using *A Guide to Wildlife Habitats of California* (CDFW 2014b). A long ditch feature bisects the property and runs along the northwestern edge until it drains off-site (**Figure 3.2-1**).

Annual grassland habitats are open grasslands dominated by annual plant species found from the flat plains of the Central Valley to the coastal mountain ranges of Mendocino County and in scattered locations across the southern portion of the state. In the PSA, this community is composed of primarily introduced annual species and includes orchard grass (*Dactylis glomerata*), Italian ryegrass (*Festuca perennis*), bromes (*Bromus* spp.), barleys (*Hordeum* spp.), filarees (*Erodium* spp.), and oats (*Avena* spp.). At the time of the site visit, the ditch feature was dominated by bentgrass (*Agrostis* sp.) and curly dock (*Rumex crispus*). A few small trees, including English walnut (*Juglans regia*), occur in the PSA. In addition, a row of oleander (*Nerium oleander*) hugs the eastern boundary of the PSA.

Annual grasslands provide foraging habitat for a wide variety of wildlife species including raptors, seed-eating birds, small mammals, amphibians, and reptiles. Reptiles likely associated with this habitat type in the PSA include western fence lizard (*Sceloporus occidentalis*) and common garter snake (*Thamnophis sirtalis*). Black-tailed jackrabbit (*Lepus californicus*), western harvest mouse (*Reithrodontomys megalotis*), Botta's pocket gopher (*Thomomys bottae*), and California vole (*Microtus californicus*) are mammals commonly found in this habitat type. Western meadowlarks (*Sturnella neglecta*) may breed in the grassland community in the PSA, while raptors likely use it for foraging.

T:_GIS\Glenn_County\MXDs\Orland\Pilot Flying J\Figure 3.2-1 Vegetation.mxd (12/26/2014)

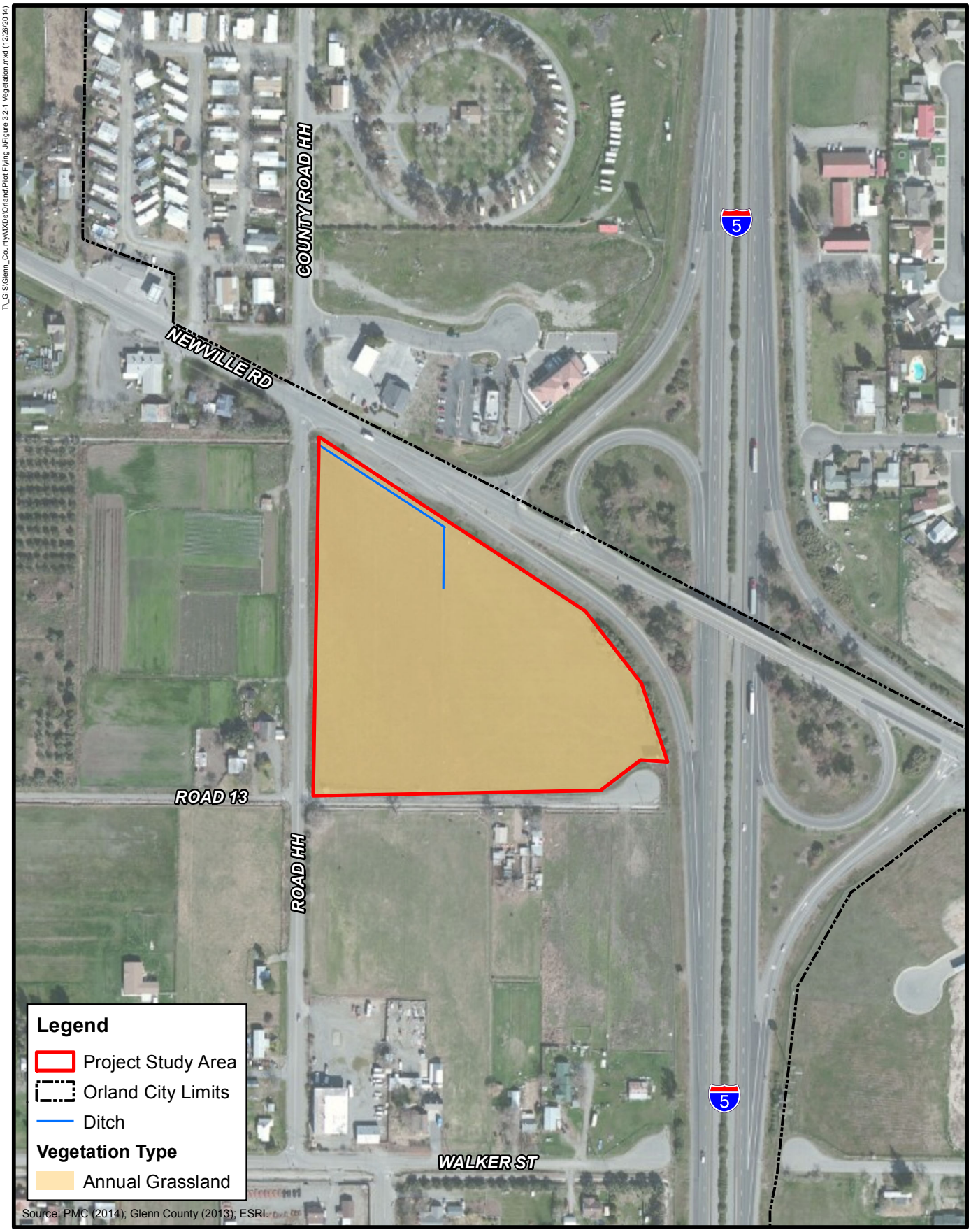

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Figure 3.2-1
Vegetation Map

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Sensitive Biological Resources

Sensitive habitats include areas of special concern to resource agencies, areas protected under the California Environmental Quality Act (CEQA), areas designated as sensitive natural communities by the CDFW, areas outlined in Section 1600 of the California Fish and Game Code (FGC), areas regulated under Section 404 of the federal Clean Water Act (CWA), and areas protected under local regulations and policies. The ditch feature may be considered a sensitive habitat as it may meet the criteria for waters of the United States and may be subject to 1602 regulation by the CDFW. The ditch was the only potentially sensitive habitat identified in the PSA. Determination of designated critical habitat within and surrounding the PSA was evaluated using the USFWS (2014b) Critical Habitat Portal. No designated critical habitat occurs in or adjacent to the PSA.

Waters of the State and/or United States

Jurisdictional waters of the State and United States, along with isolated wetlands, provide a variety of functions for plants and wildlife. Wetlands and other water features provide habitat, foraging, cover, and migration and movement corridors for both special-status and common species. In addition to habitat functions, these features provide physical conveyance of surface water flows capable of handling large stormwater events. Large storms can produce extreme flows that cause bank cutting and sedimentation of open waters and streams. Jurisdictional waters can slow these flows and lessen the effects of these large storm events, protecting habitat and other resources.

One potentially jurisdictional feature, a man-made ditch, was observed during the reconnaissance-level survey. The ditch begins at the northwestern corner of the Pilot Flying J Travel Center site, runs east along the northern site boundary, and turns south for approximately 100 feet at the center of the site. This feature conveys agricultural water from the Stony Creek Irrigation Canal, via a series of irrigation channels and culverts immediately west of the PSA. The Stony Creek Irrigation Canal receives water from the Black Butte Reservoir, which would be considered a traditionally navigable water by the US Army Corps of Engineers (USACE); therefore, this feature may be subject to Clean Water Act jurisdiction. In addition, the on-site ditch may also be subject to 1602 regulation by the CDFW. A formal jurisdictional determination has not been performed and/or approved by the regulatory agencies to date.

WILDLIFE MOVEMENT CORRIDORS

Wildlife corridors are established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented acres of undisturbed area. Maintaining the continuity of established wildlife corridors is important to sustain species with specific foraging requirements, preserve a species' distribution potential, and retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource.

The PSA likely does not provide opportunity for local wildlife movement, as it is surrounded on all sides by local roads and to the east by Interstate 5, which acts as a major barrier to wildlife movement. Lands to the west are farther removed from anthropogenic activities and offer more optimal movement opportunities. The CDFW (2014c) BIOS 5 Viewer provided the data on movement corridors and linkages. Data reviewed included the Essential Connectivity Areas [ds623] layer and the Missing Linkages in California [ds420] layer. The PSA is not within or adjacent to any Essential Connectivity Areas or Missing Linkages.

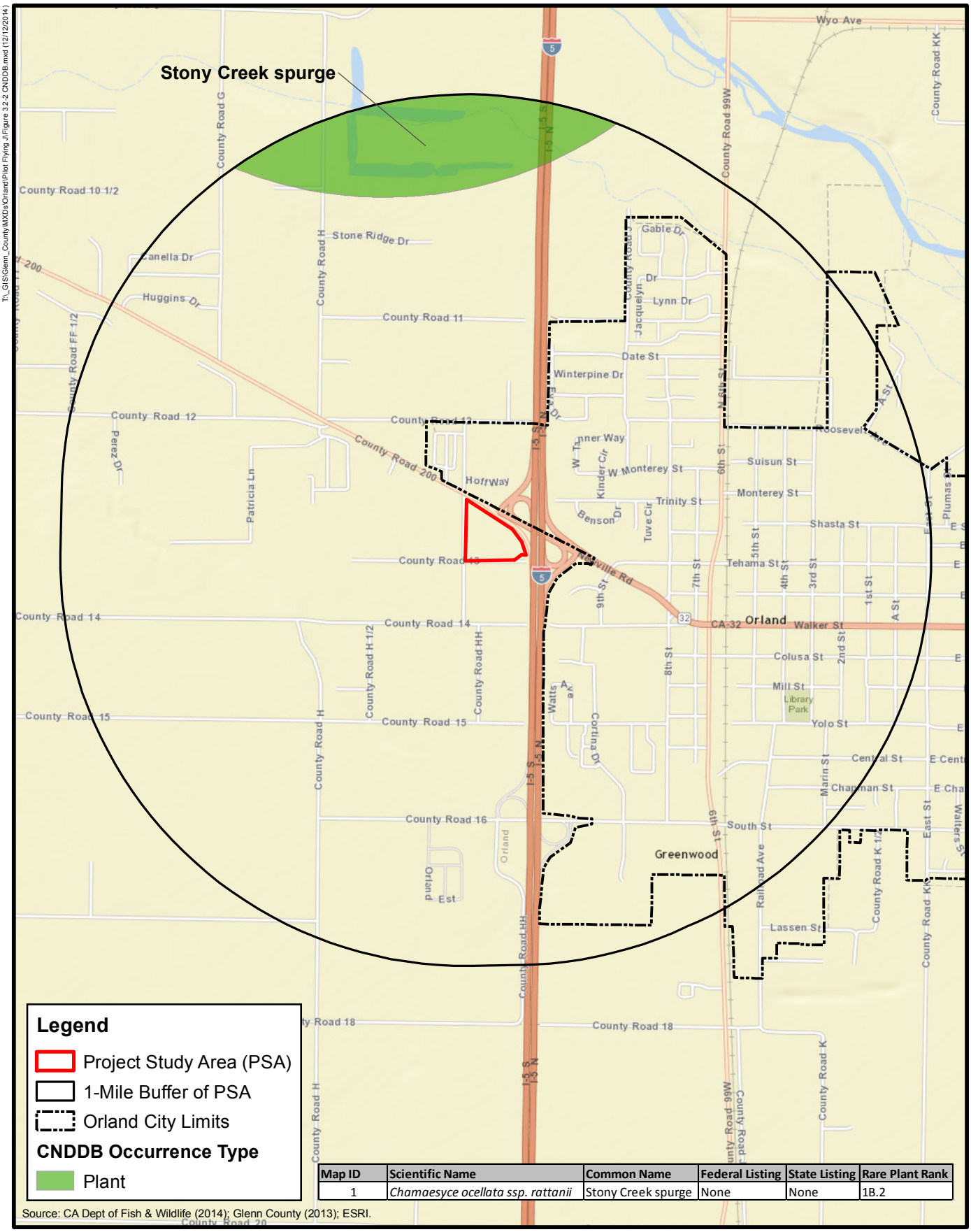
SPECIAL-STATUS SPECIES

Candidate, sensitive, or special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area or across their native habitat. These species have been identified and assigned a status ranking by governmental agencies such as the CDFW and the USFWS and by private organizations such as the CNPS. The degree to which a species is at risk of extinction is the determining factor in the assignment of a status ranking. Some common threats to a species' or population's persistence include habitat loss, degradation, and fragmentation, as well as human conflict and intrusion. For the purposes of this biological review, special-status species are defined by the following codes:

- Listed, proposed, or candidates for listing under the federal Endangered Species Act (ESA) (50 Code of Federal Regulations [CFR] 17.11 – listed; 61 Federal Register 7591, February 28, 1996, candidates)
- Listed or proposed for listing under the California Endangered Species Act (CESA) (FGC 1992 Section 2050 et seq.; 14 California Code of Regulations [CCR] Section 670.1 et seq.)
- Designated as Species of Special Concern by the CDFW
- Designated as Fully Protected by the CDFW (FGC Sections 3511, 4700, 5050, and 5515)
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380) including CNPS List Rank 1b and 2

The results of the USFWS, CDFW, and CNPS database queries identified one special-status species, Swainson's hawk, with the potential to be impacted by project-related activities. **Table 3.2-1** summarizes all special-status species identified in the database results, describes the habitat requirements for each species, and provides conclusions regarding the potential for each species to be impacted by project-related activities. The CNDDB results within 1 mile of the project are depicted on **Figure 3.2-2**. In addition, the query of the USFWS Critical Habitat Portal revealed that the PSA is not within or adjacent to any designated critical habitat.

T:_GIS\Glenn_County\MXDs\Orland\Pilot Flying J\Figure 3.2-2 CNDDB.mxd (12/12/2014)



Map ID	Scientific Name	Common Name	Federal Listing	State Listing	Rare Plant Rank
1	*Chamaesyce ocellata ssp. rattanii*	Stony Creek spurge	None	None	1B.2

Source: CA Dept of Fish & Wildlife (2014); Glenn County (2013); ESRI.

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Figure 3.2-2
CNDDB Occurrences of Special-Status Species
Within 1 Mile of Project Study Area

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TABLE 3.2-1
SPECIAL-STATUS SPECIES OCCURRENCE SUMMARY

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
Plants							
Castilleja rubicundula var. *rubicundula*	pink creamsacs	—	—	1B.1	Serpentinite soils in chaparral openings, cismontane woodlands, meadows, seeps, and valley and foothill grasslands. Elev: 66–2,986 ft (20–910 m). Blooms: Apr–June (CNPS 2014).	A	**No effect.** Suitable habitat/soils not present. Soils in PSA not serpentinite (CGS 2010).
Chamaesyce hooveri	Hoover's spurge	FT	—	1B.1	Vernal pools. Elev: 82–820 ft (25–250 m). Blooms: July–Oct (CNPS 2014).	A	**No effect.** Suitable habitat not present.
Chamaesyce ocellata ssp. *rattanii*	Stony Creek spurge	—	—	1B.2	Chaparral and sandy or rocky soils in valley and foothill grassland. Elev: 279–2,625 ft (85–800 m). Blooms: May–Oct (CNPS 2014).	A	**No effect.** Suitable habitat/soils not present. Loam soil in PSA (USDA-NRCS 2014).
Downingia pusilla	dwarf downingia	—	—	2B.2	Vernal pools and mesic valley and foothill grasslands. Elev: 3–1,459 ft (1–445 m). Blooms: Mar-May (CNPS 2014).	A	**Not likely to affect.** Suitable conditions not present. Grassland habitat present; however, soils in PSA are well/excessively drained (USDA-NRCS 2014).
Fritillaria pluriflora	adobe-lily	—	—	1B.2	Often on adobe soils in chaparral, cismontane woodland, and valley and foothill grassland. Elev: 197–2,313 ft (60–705 m). Blooms: Feb–Apr (CNPS 2014).	A	**Not likely to affect.** Suitable soils not present. Loam soil in PSA (USDA-NRCS 2014).
Gratiola heterosepala	Boggs Lake hedge-hyssop	—	SE	1B.2	Clay soils in marshes, swamps, lake margins, and vernal pools. Elev: 33–7,792 ft (10–2,375 m). Blooms: Apr–Aug (CNPS 2014).	A	**No effect.** Suitable habitat/soils not present. Loam soil in PSA (USDA-NRCS 2014).
Juncus leiospermus var. *leiospermus*	Red Bluff dwarf rush	—	—	1B.1	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elev: 115–4,101 ft (35–1,250 m). Blooms: Mar–June (CNPS 2014).	A	**Not likely to affect.** Suitable conditions not present. Grassland habitat present; however, soils in PSA are well/excessively drained (USDA-NRCS 2014).

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
Legenere limosa	legenere	—	—	1B.1	Vernal pools. Elev: 3–2,887 ft (1–880 m). Blooms: Apr–June (CNPS 2014).	A	**No effect.** Suitable habitat not present.
Navarretia leucocephala ssp. *bakeri*	Baker's navarretia	—	—	1B.1	Mesic areas in cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, and vernal pools. Elev: 16–5,709 ft (5–1,740 m). Blooms: Apr–July (CNPS 2014).	A	**Not likely to affect.** Suitable conditions not present. Grassland habitat present; however, soils in PSA are well/excessively drained (USDA-NRCS 2014).
Orcuttia pilosa	hairy orcutt grass	FE	SE	1B.1	Vernal pools. Elev: 151–656 ft (46–200 m). Blooms: May–Sept (CNPS 2014).	A	**No effect.** Suitable habitat not present.
Orcuttia tenuis	slender Orcutt grass	FT	SE	1B.1	Vernal pools. Elev: 115–5,774 ft (35–1,760 m). Blooms: May–Oct (CNPS 2014).	A	**No effect.** Suitable habitat not present.
Paronychia ahartii	Ahart's paronychia	—	—	1B.1	Stony, nearly barren clay of swales and higher ground around vernal pools (CDFW 2014e). Cismontane woodland, valley and foothill grasslands, and vernal pools. Elev: 98–1,673 ft (30–510 m). Blooms: Feb–June (CNPS 2014).	A	**Not likely to affect.** Suitable habitat/soils not present. Loam soil in PSA (USDA-NRCS 2014).
Tuctoria greenei	Greene's tuctoria	FE	SR	1B.1	Vernal pools. Elev: 98–3,510 ft (30–1,070 m). Blooms: May–Sept (CNPS 2014).	A	**No effect.** Suitable habitat not present.
Wolffia brasiliensis	Brazilian watermeal	—	—	2B.3	Assorted shallow freshwater marshes and swamps. Elev: 66–328 ft (20–100 m). Blooms: Apr–Dec (CNPS 2014).	A	**No effect.** Suitable habitat not present.
Invertebrates							
Branchinecta conservatio	conservancy fairy shrimp	FE	—		Vernal pools, often large and turbid pools (USFWS 2005).	A	**No effect.** Suitable habitat not present.
Branchinecta lynchi	vernal pool fairy shrimp	FT	—		Found only in vernal pools and ephemeral wetlands. Distributed throughout the Central Valley, including Sacramento County (USFWS 2005).	A	**No effect.** Suitable habitat not present.
	Critical Habitat, vernal pool fairy shrimp	X	—			A	**No effect.** PSA not located within Critical Habitat Unit.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	—		Dependent on host plant, elderberry (*Sambucus* spp.), which generally grows in riparian woodlands and upland habitats of the Central Valley. Current distribution in the Central Valley from Shasta County to Fresno County (USFWS 1999).	A	**No effect.** Elderberry host plant not present in PSA.
Lepidurus packardi	vernal pool tadpole shrimp	FE	—		Wide variety of ephemeral wetland habitats, including vernal pools. Distributed throughout Central Valley and San Francisco Bay area (USFWS 2005).	A	**No effect.** Suitable habitat not present.
Fish							
Acispenser medirostris	green sturgeon	FT	SSC		Entire coast of California. Spawning occurs in Sacramento River and Klamath River (USFWS 1996). Oceanic waters, bays, and estuaries during non-spawning season. Spawning habitat = deep pools in large, turbulent, freshwater mainstems (NMFS 2005).	A	**No effect.** Suitable habitat not present.
Hypomesus transpacificus	delta smelt	FT	SE		Distribution includes the Sacramento River below Isleton, San Joaquin River below Mossdale, and Suisun Bay. Spawning areas include the Sacramento River below Sacramento, Mokelumne River system, Cache Slough, the Delta, and Montezuma Slough (USFWS 1996).	A	**No effect.** Suitable habitat not present.
Oncorhynchus mykiss	Central Valley steelhead	FT	-		Spawning habitat = gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Non-spawning = estuarine, marine waters (Busby et al. 1996).	A	**No effect.** Suitable habitat not present.
	Critical Habitat, Central Valley steelhead	X	—			A	**No effect.** PSA not located within Critical Habitat Unit.
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon	FT	ST		Spawning habitat = fast moving, freshwater streams and rivers. Juvenile	A	**No effect.** Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
	Critical Habitat, Central Valley spring-run chinook salmon	X	—		habitat = brackish estuaries. Non-spawning = marine waters (Myers et al. 1998).	A	**No effect.** PSA not located within Critical Habitat Unit.
	winter-run chinook salmon, Sacramento River	FE	SE			A	**No effect.** Suitable habitat not present.
	Critical Habitat, winter-run chinook salmon, Sacramento River	X	—			A	**No effect.** PSA not located within Critical Habitat Unit.
Amphibians							
Rana draytonii	California red-legged frog	FT	SSC		Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry. From sea level to 5,000 feet (1,525 m) (Nafis 2014).	A	**No effect.** Breeding habitat not present. Largely extirpated from the Central Valley (CDFW 2014d).
Spea hammondii	western spadefoot	—	SSC		Open areas with sandy/gravelly soils. Variable habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding (Nafis 2014).	A	**Not likely to affect.** Loamy soils likely preclude the presence of this species. In addition, there are no records of this species occurring within 5 miles of the PSA (CDFW 2014c).

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
Reptiles							
Emys marmorata	western pond turtle	—	SSC		Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Found at elevations from sea level to over 5,900 feet (1,800 m) (Nafis 2014).	A	**Not likely to affect.** Suitable habitat not present.
Thamnophis gigas	giant garter snake	FT	ST		Marshes, sloughs, ponds, small lakes, low gradient streams, irrigation and drainage canals, rice fields and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November–mid March). Ranges in the Central Valley from Butte County to Buena Vista Lake in Kern County. Endemic to valley floor wetlands (USFWS 2012).	A	**Not likely to affect.** Suitable habitat not present.
Birds							
Agelaius tricolor	tricolored blackbird	—	SSC		Nests in wetlands or in dense vegetation near open water. Dominant nesting substrates: cattails, bulrushes, blackberry, agricultural silage. Nesting substrate must either be flooded, spinous, or in some way defended against predators (Hamilton 2004).	A	**No effect.** Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
Asio flammeus	short-eared owl	—	SSC		Found in open, treeless areas with elevated sites for perches, and dense vegetation for roosting and nesting. Associated with perennial grasslands, prairies, dunes, meadows, irrigated lands, and saline and fresh emergent wetlands (CDFW 2014d).	P	**Not likely to affect.** This species is a winter resident near Orland and goes elsewhere in California to nest (CDFW 2014d).
Athene cunicularia	burrowing owl	—	SSC		Open, flat expanses with short, sparse vegetation and few shrubs, level to gentle topography and well-drained soils. Requires underground burrows or cavities for nesting and roosting. Can use rock cavities, debris piles, pipes and culverts if burrows unavailable. Habitats include grassland, shrub steppe, desert, agricultural land, vacant lots and pastures (CDFW 2014d).	P	**Not likely to affect.** No natural or artificial burrows observed during reconnaissance-level survey.
Buteo swainsoni	Swainson's hawk	—	ST		Nests in stands with few trees in riparian areas, juniper-sage flats, and oak savannah in the Central Valley. Forages in adjacent grasslands, agricultural fields and pastures (CDFW 2014d).	P	**May affect.** Suitable foraging habitat present. Nesting habitat not present.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT	SE		Valley foothill and desert riparian habitats. Inhabits extensive deciduous riparian thickets or forests with dense, low-level or understory foliage, abutting slow-moving watercourses, backwaters, or seeps. Willow almost always present (CDFW 2014d).	A	**No effect.** Suitable habitat not present.
Dendroica petechia brewsteri	yellow warbler	—	SSC		Riparian vegetation along streams and in wet meadows. Willow cover and Oregon ash important predictors of abundance in Northern California (CDFW 2014d).	A	**No effect.** Suitable habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
Haliaeetus leucocephalus	bald eagle	FD	SE/FP		Nests in large, old-growth, or dominant live tree with open branchwork, especially ponderosa pine. Requires large bodies of water or rivers with abundant fish, and adjacent snags (CDFW 2014d).	A	**No effect.** Suitable habitat not present.
Icteria vires	yellow-breasted chat	—	SSC		Nests in early-successional riparian habitats with a well-developed shrub layer and an open canopy. Restricted to narrow border of streams, creeks, sloughs and rivers. Often nest in dense thicket plants such as blackberry and willow (Shuford and Gardali 2008).	A	**No effect.** Suitable habitat not present.
Lanius ludovicianus	loggerhead shrike	—	SSC		Breeds in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground (Shuford and Gardali 2008).	A	**No effect.** Suitable habitat not present.
Riparia riparia	bank swallow	—	ST		Riparian areas with sandy, vertical bluffs or riverbanks. Also nest in earthen banks and bluffs, as well as sand and gravel pits (CDFW 2014d).	A	**No effect.** Suitable habitat not present.
Mammals							
Eumops perotis californicus	western mastiff bat	—	SSC		Open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas. Roosts in crevices on vertical cliff faces, high buildings, trees, and tunnels (CDFW 2014d).	A	**No effect.** Suitable roosting habitat not present.
Lasiurus blossevillii	western red bat	—	SSC		Roosting habitat includes forests and woodlands, often in edge habitats adjacent to streams or fields (CDFW 2014d).	A	**No effect.** Suitable roosting habitat not present.

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Habitat Present/ Absent	Rationale
Pekania pennanti	fisher - west coast DPS	FCT	SCT /SSC		Large areas of mature, dense forest stands with snags and greater than 50% canopy closure. Uncommon permanent resident of the Sierra Nevada, Cascades, and Klamath Mountains.; also found in a few areas in the North Coast Ranges (CDFW 2014d).	A	**No effect.** Suitable habitat not present.
Taxidea taxus	American badger	—	SSC		Open shrub, forest and herbaceous habitats with friable soils. Associated with treeless regions, prairies, parklands, and cold desert areas. Range includes most of California, except the North Coast (CDFW 2014d).	P	**Not likely to affect.** Surrounding urban/agricultural land and proximity to Interstate 5 likely precludes the presence of this species. Nearest occurrence is roughly 3.5 miles northwest of the PSA (CDFW 2014d).

Key	
Federal & State Status	**CNPS Rare Plant Rank**
(FE) Federal Endangered	*Rareness Ranks*
(FT) Federal Threatened	(1A) Presumed Extinct in California
(FC) Federal Candidate	(1B) Rare, Threatened, or Endangered in California and Elsewhere
(FD) Federally Delisted	(2B) Rare, Threatened, or Endangered in California, But More Common Elsewhere
(FP) Fully Protected	*Threat Ranks*
(SE) State Endangered	(0.1) Seriously threatened in California
(ST) State Threatened	(0.2) Fairly threatened in California
(SR) State Rare	(0.3) Not very threatened in California
(SSC) State Species of Special Concern	
(SCE) State Candidate Endangered	
(SCT) State Candidate Threatened	

Special-Status Plant Species

Based on the database search results and site reconnaissance, no special-status plant species have the potential to occur on the PSA due to the absence of suitable habitat.

Special-Status Wildlife Species

Based on database search results, one special-status species (Swainson's hawk) has the potential to occur in the PSA. Swainson's hawks are listed by the State of California as threatened. Swainson's hawks are typically complete migrants in that they breed in North America and winter in South America. They typically arrive at their breeding grounds in early to mid-April and begin their southern migration in early September. The majority of breeding Swainson's hawk occurs in two disjunct populations in California—the Great Basin and the Central Valley—although they can be found in desert, shrubsteppe, grassland, and agricultural habitats across the state. This species is not an obligate riparian species; the correlation with riparian habitat is variable and dependant on the availability and distribution of suitable nest sites in proximity to high-value foraging habitat (Woodbridge 1998).

High-value foraging habitat is largely a function of prey abundance and availability. Different crop types support different levels of prey abundance, and the timing of tilling and harvest affects prey availability within each crop type. Alfalfa fields contain low prey abundance, but prey is accessible throughout the growing season due to the low stature of this crop type. Tomato and beet crops support a high prey density, but due to crop heights and density, prey access is limited to harvest periods. Fallow fields along with dry and irrigated pastures also provide important foraging habitat, whereas vineyards, mature orchards, and cotton fields contain low prey abundance and availability (Woodbridge 1998).

There are eight records of Swainson's hawks within 5 miles of the PSA (CDFW 2014c). Though nesting habitat is absent, the annual grassland community in the PSA provides suitable foraging habitat for this species.

3.2.2 REGULATORY FRAMEWORK

This section lists specific environmental review and consultation requirements and identifies permits and approvals that must be obtained from local, state, and federal agencies before implementation of the proposed project.

FEDERAL

Endangered Species Act

The Endangered Species Act of 1973 (ESA), as amended, provides protective measures for federally listed threatened and endangered species, including their habitats, from unlawful take (16 United States Code (USC) Sections 1531–1544). The ESA defines "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Title 50, Part 222, of the Code of Federal Regulations (50 CFR Section 222) further defines "harm" to include "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including feeding, spawning, rearing, migrating, feeding, or sheltering."

ESA Section 7(a)(1) requires federal agencies to utilize their authority to further the conservation of listed species. ESA Section 7(a)(2) requires consultation with the USFWS or the National Marine Fisheries Service (NMFS) if a federal agency undertakes, funds, permits, or authorizes (termed the federal nexus) any action that may affect endangered or threatened species, or designated critical habitat. For projects that may result in the incidental "take" of threatened or endangered species, or critical habitat, and that lack a federal nexus; a Section 10(a)(1)(b) incidental take permit can be obtained from the USFWS and/or the NMFS.

Clean Water Act

The basis of the CWA was established in 1948; however, it was referred to as the Federal Water Pollution Control Act. The act was reorganized and expanded in 1972 (33 USC Section 1251), and at that time the Clean Water Act became the act's commonly used name. The basis of the CWA is the regulation of pollutant discharges into waters of the United States, as well as the establishment of surface water quality standards.

Section 404

CWA Section 404 (33 USC Section 1344) established the program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Under this regulation, certain activities proposed within waters of the United States require the obtainment of a permit prior to initiation. These activities include, but are not limited to, placement of fill for the purposes of development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and bridges), and mining operations.

The primary objective of this program is to ensure that the discharge of dredged or fill material is not permitted if a practicable alternative to the proposed activities exists that results in less impact to waters of the United States, or the proposed activity would result in significant adverse impacts to waters of the United States. To comply with these objectives, a permittee must document the measures taken to avoid and minimize impacts to waters of the United States and provide compensatory mitigation for any unavoidable impacts.

The US Environmental Protection Agency (EPA) and the USFWS are assigned roles and responsibilities in the administration of this program; however, the USACE is the lead agency in the administration of day-to-day activities, including issuance of permits. The agencies will typically assert jurisdiction over the following waters (1) traditional navigable waters (TNW); (2) wetlands adjacent to TNWs; (3) relatively permanent waters (RPW) that are non-navigable tributaries to TNWs and have relatively permanent flow or seasonally continuous flow (typically three months); and (4) wetlands that directly abut RPWs. Case-by-case investigations are usually conducted by the agencies to ascertain their jurisdiction over waters that are non-navigable tributaries and do not contain relatively permanent or seasonal flow, wetlands adjacent to the aforementioned features, and wetlands adjacent to but not directly abutting RPWs (USACE 2007). Jurisdiction is not generally asserted over swales or erosional features (e.g., gullies or small washes characterized by low volume/short duration flow events) or ditches constructed wholly within and draining only uplands that do not have relatively permanent flows.

The extent of jurisdiction within waters of the United States which lack adjacent wetlands is determined by the ordinary high water mark , which is defined in 33 CFR Section 328.3(e) as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Wetlands are

further defined under 33 CFR Section 328.3 and 40 CFR Section 230.3 as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" and typically include "swamps, marshes, bogs, and similar areas." The 1987 *Corps of Engineers Wetland Delineation Manual* (1987 Manual) sets forth a standardized methodology for delineating the extent of wetlands under federal jurisdiction (Environmental Laboratory 1987).

The 1987 Manual outlines three parameters that all wetlands, under normal circumstances, must contain positive indicators to be considered jurisdictional. These parameters include (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils (Environmental Laboratory 1987). In 2006, the USACE issued a series of regional supplements to address regional differences that are important to the functioning and identification of wetlands. The supplements present "wetland indicators, delineation guidance, and other information" that is specific to the region. The USACE requires that wetland delineations submitted after June 5, 2007, be conducted in accordance with both the 1987 Manual and the applicable supplement.

Section 401

Under CWA Section 401 (33 USC Section 1341), federal agencies are not authorized to issue a permit and/or license for any activity that may result in discharges to waters of the United States, unless a state or tribe where the discharge originates either grants or waives CWA Section 401 certification. CWA Section 401 provides states or tribes with the ability to grant, grant with conditions, deny, or waive certification. Granting certification, with or without conditions, allows the federal permit/license to be issued and remain consistent with any conditions set forth in the CWA Section 401 Certification. Denial of the certification prohibits the issuance of the federal license or permit, and waiver allows the permit/license to be issued without state or tribal comment. Decisions made by states or tribes are based on the proposed project's compliance with EPA water quality standards as well as applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of state or tribal law. In California, the State Water Resources Control Board is the primary regulatory authority for CWA Section 401 requirements (additional details below).

Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC Sections 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Section 21). The majority of birds found in the project vicinity would be protected under the MBTA.

Executive Order 11990 Protection of Wetlands (42 Federal Register 26961, 25 May 1977)

Executive Order 11990 requires federal agencies to provide leadership and take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural qualities of these lands. Federal agencies are required to avoid undertaking or providing support for new construction located in wetlands unless (1) no practicable alternative exists, and (2) all practical measures have been taken to minimize harm to wetlands.

Executive Order 13112 (Invasive Species)

Executive Order 13112 (Invasive Species) directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. The order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species.

STATE

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has the responsibility for maintaining a list of endangered and threatened species (FGC Section 2070). The CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for potential addition to the list of endangered or threatened species, and a list of "species of special concern," which serve as species "watch lists."

Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. "Take" of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from the CDFW would be in the form of an incidental take permit.

California Fish and Game Code

Native Plant Protection Act

The Native Plant Protection Act (FGC Sections 1900–1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered (as defined by the CDFW). An exception in the act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify the CDFW and give that state agency at least 10 days to retrieve the plants before they are plowed under or otherwise destroyed (FGC Section 1913). Project impacts to these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

Birds of Prey

Under FGC Section 3503.5, it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

"Fully Protected" Species

California statutes also afford "fully protected" status to a number of specifically identified birds, mammals, reptiles, and amphibians. These species cannot be taken, even with an incidental take permit. FGC Section 3505 makes it unlawful to take "any aigrette or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird." FGC Section 3511 protects from take the following fully protected birds: (a) American peregrine falcon (*Falco peregrinus anatum*); (b) brown pelican (*Pelecanus occidentalis*); (c) California black rail (*Laterallus jamaicensis coturniculus*); (d) California clapper rail (*Rallus longirostris obsoletus*); (e) California condor (*Gymnogyps californianus*); (f) California least tern (*Sterna albifrons browni*); (g) golden eagle (*Aquila chrysaetos*); (h) greater sandhill crane (*Grus canadensis tabida*); (i) light-footed clapper rail (*Rallus longirostris levipes*); (j) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (k) trumpeter swan (*Cygnus buccinator*); (l) white-tailed kite (*Elanus leucurus*); and (m) Yuma clapper rail (*Rallus longirostris yumanensis*).

FGC Section 4700 identifies the following fully protected mammals that cannot be taken: (a) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (b) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*); (c) Northern elephant seal (Mirounga angustirostri); (d) Guadalupe fur seal (*Arctocephalus townsendi*); (e) ring-tailed cat (genus *Bassariscus*); (f) Pacific right whale (*Eubalaena sieboldi*); (g) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (h) southern sea otter (*Enhydra lutris nereis*); and (i) wolverine (*Gulo gulo*).

FGC Section 5050 protects from take the following fully protected reptiles and amphibians: (a) blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*); (b) San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); (c) Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*); (d) limestone salamander (*Hydromantes brunus*); and (e) black toad (*Bufo boreas exsul*).

FGC Section 5515 also identifies certain fully protected fish that cannot lawfully be taken even with an incidental take permit. The following species are protected in this fashion: (a) Colorado River squawfish (*Ptychocheilus lucius*); (b) thicktail chub (*Gila crassicauda*); (c) Mohave chub (*Gila mohavensis*); (d) Lost River sucker (*Catostomus luxatus*); (e) Modoc sucker (*Catostomus microps*); (f) shortnose sucker (*Chasmistes brevirostris*); (g) humpback sucker (*Xyrauchen texanus*); (h) Owens River pupfish (*Cyprinoden radiosus*); (i) unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*); and (j) rough sculpin (*Cottus asperrimus*).

None of these species will be affected by the proposed project.

Policies Related to California Wetlands and Other Waters

The California Resources Agency and its various departments do not authorize or approve projects that fill or otherwise harm or destroy coastal, estuarine, or inland wetlands. Exceptions may be granted if all of the following conditions are met:

- The project is water-dependent.
- No other feasible alternative is available.
- The public trust is not adversely affected.
- Adequate compensation is proposed as part of the project.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (California Water Code Section 13000 et seq.; CCR Title 23, Chapter 3, Subchapter 15) is the primary state regulation that addresses water quality. The requirements of the act are implemented at the state level by the State Water Resources Control Board and at the local level by the Regional Water Quality Control Board (RWQCB). The RWQCB carries out planning, permitting, and enforcement activities related to water quality in California. The act provides waste discharge requirements and a permitting system for discharges to land or water. Certification is required by the RWQCB for activities that can affect water quality.

Clean Water Act, Section 401 Water Quality Certification

CWA Section 401 (33 USC Section 1341) requires that any applicant for a federal license or permit that may result in a pollutant discharge to waters of the United States obtain a certification that the discharge will comply with EPA water quality standards. The state or tribal agency responsible for issuance of the Section 401 certification may also require compliance with additional effluent limitations and water quality standards set forth in state/tribal laws. In California, the RWQCB is the primary regulatory authority for CWA Section 401 requirements.

The Central Valley RWQCB is responsible for enforcing water quality criteria and protecting water resources in the project area. In addition, the RWQCB is responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements or commonly by issuing conditional waivers to waste discharge requirements. The RWQCB requires that a project proponent obtain a CWA Section 401 water quality certification for CWA Section 404 permits issued by the US Army Corps of Engineers.

Delegated Permit Authority

California has been delegated permit authority for the National Pollutant Discharge Elimination System (NPDES) permit program, including stormwater permits for all areas except tribal lands. Issuance of CWA Section 404 dredge and fill permits remains the responsibility of the USACE; however, the state actively uses its CWA Section 401 certification authority to ensure CWA Section 404 permits are in compliance with state water quality standards.

State Definition of Covered Waters

Under California state law, waters of the State means "any surface water or groundwater, including saline waters, within the boundaries of the state." Therefore, water quality laws apply to both surface water and groundwater. After the US Supreme Court decision in *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers*, the Office of Chief Counsel of the State Water Resources Control Board released a legal memorandum confirming the State's jurisdiction over isolated wetlands. The memorandum stated that under the California Porter-Cologne Water Quality Control Act (Porter-Cologne), discharges to wetlands and other waters of the State are subject to state regulation, and this includes isolated wetlands. In general, the State Water Resources Control Board regulates discharges to isolated waters in much the same way as it does for waters of the United States, using Porter-Cologne rather than Clean Water Act authority.

LOCAL

City of Orland General Plan and General Plan EIR

The following goal and related policies from the Biological Resources section of the Open Space and Conservation Element of the Orland General Plan (2010a) are relevant to biological impacts:

> **Goal 5.3:** Minimize impacts to wildlife and wildlife habitat as new development occurs within the Orland planning area.
>
> **Policy 5.3.A:** Where appropriate, apply mitigation measures to development projects to minimize impacts to biological resources during all stages of development, including grading, construction and occupancy.
>
> **Policy 5.3.B:** Consider opportunities for habitat preservation, enhancement, and creation in conjunction with public facility projects, particularly storm drainage facilities.
>
> **Policy 5.3.C:** Applicants for new development proposals shall be responsible for costs related to determining the potential for occurrence of protected plant and wildlife species within the proposed project area. City staff shall make determination of the degree of field investigation required.
>
> **Policy 5.3.D:** If the presence of protected species is determined to be likely, the project applicant shall be responsible for all costs associated with investigating species presence and preparation of any required mitigation plans.

NONGOVERNMENTAL AGENCY

California Native Plant Society

The CNPS is a nongovernmental agency that classifies native plant species according to current population distribution and threat level in regard to extinction. The CNPS utilizes the data to create/maintain a list of native California plants that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2014). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

The following identifies the definitions of the CNPS listings:

List 1A: Plants believed to be extinct

List 1B: Plants that are rare, threatened, or endangered in California and elsewhere

List 2B: Plants that are rare, threatened, or endangered in California, but are more numerous elsewhere

All of the plant species on List 1 and 2 meet the requirements of the Native Plant Protection Act, Section 1901, Chapter 10, or FGC Sections 2062 and 2067, and are eligible for state listing. Plants appearing on List 1 or 2 are considered to meet the criteria of CEQA Section 15380, and effects on these species are considered "significant." Classifications for plants on List 3 (plants about which more information is needed) and/or List 4 (plants of limited distribution), as defined by the

CNPS, are not currently protected under state or federal law. Therefore, no detailed descriptions are provided or impact analysis was performed on species with these classifications.

3.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the application of the State CEQA Guidelines Appendix G thresholds of significance. A project is considered to have significant impacts if implementation of the project will:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or the USFWS.

2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or the USFWS.

3) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption, or other means.

4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

6) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

7) Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

METHODOLOGY

The impact assessment below discusses impacts from implementation of project activities. The impact assessment was based on the project description (Section 2.0), information described in the environmental setting, and the standards of significance listed above. In addition, the impact analysis is organized by the significance criteria noted above: special-status plant and wildlife species, sensitive vegetation communities, federally protected wetlands, wildlife movement corridors, and compliance with local plans and policies or existing habitat conservation plans. Each impact category includes a description of the specific potential impacts as well as avoidance, minimization, and mitigation measures that can potentially reduce and mitigate potentially significant impacts.

As stated in Section 2.0, Project Description, the proposed project includes two components: (1) the annexation by the City of Orland of a total of six parcels and roadways, and (2) the development of a proposed Pilot Flying J Travel Center. The total area of annexation is 19.63 acres. However, a 7.5-acre portion of one of the six parcels is analyzed separately in this EIR as the Pilot Flying J Travel Center project. This is done because the Pilot Flying J Travel Center site has specific development proposed, while the remaining parcels do not. Other than development of 7.5 acres with the Pilot Flying J Travel Center, all existing uses in the area to be annexed by the City are to remain as currently existing, and no development of these areas has been proposed as a part of this project. However, in order to ascertain the potential for environmental impact resulting from annexation of this additional 12.13 acres (known as the Westside Annexation Area), a development potential for each individual parcel has been assumed based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed (see **Table 2.0-1**). Based on the development potential shown in **Table 2.0-1**, the Westside Annexation Area could result in 1.7 acres of new commercial uses directly adjacent to the southwest boundary of the Pilot Flying J Travel Center site. The remaining acreage of the Westside Annexation Area already accommodates existing uses. The following discussion of potential biological impacts accounts for the proposed Pilot Flying J Travel Center as well as the development potential of 1.7 acres of new commercial uses directly adjacent to the Travel Center site.

PROJECT IMPACTS AND MITIGATION MEASURES

Impacts to Candidate, Sensitive, or Special-Status Species (Standards of Significance 1 and 7)

Impact 3.2.1 Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, regulations, or by the CDFW or the USFWS. These effects would be considered a **potentially significant** impact.

Westside Annexation Area & Pilot Flying J Project

Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, on Swainson's hawk and migratory birds.

Eight Swainson's hawk occurrences have been reported within 5 miles of the PSA (CDFW 2014c). There are no known active nests within 1 mile of the PSA. There are several records of Swainson's hawk nests along the waterway and scattered throughout agricultural lands in the vicinity of the PSA. The closest occurrence is just over 3.5 miles southeast of the PSA. According to the CDFW's (1994) *Staff Report Regarding Mitigation for Impacts to Swainson's Hawk (Buteo swainsoni) in the Central Valley of California*, loss of foraging habitat within 5 miles of active Swainson's hawk nests calls for mitigation in the form of providing 0.75 acre of habitat management lands for every 1 acre of foraging habitat lost. The ±9 acres of annual grassland in the PSA provide suitable foraging habitat for Swainson's hawks. As a result, implementation of project-related activities will result in a loss of foraging habitat for this species. In order to reduce potential impacts to a less than significant level, implementation of mitigation measure **MM 3.2.1a** is required.

Trees in the PSA are not large enough to provide suitable nesting habitat for raptors; however, the PSA provides suitable nesting habitat for migratory birds not identified in **Table 3.2-1**. Nests may be located in trees or shrubs or on the ground. All native breeding birds (except game birds during the hunting season), regardless of their listing status, are protected under the Migratory

Bird Treaty Act. As a result, vegetation clearing during the nesting season could result in direct impacts to nesting birds should they be present. Construction could result in noise, dust, increased human activity, and other indirect impacts to nesting migratory bird species in the project vicinity. Potential nest abandonment and mortality to eggs and chicks, as well as stress from loss of foraging areas, would also be considered potentially significant impacts. If nesting migratory birds are present during project construction, the proposed project may cause direct mortality to migratory birds through removal of vegetation that contains active nests. Due to the presence of suitable habitat for these species, implementation of project-related activities may result in adverse impacts should they be present in areas proposed for disturbance. In order to reduce potential impacts to a less than significant level, implementation of mitigation measure **MM 3.2.1b** is required.

Mitigation Measures

MM 3.2.1a **Swainson's Hawk Foraging Habitat.** Prior to issuance of grading permits, the applicant shall provide documentation to the City of Orland demonstrating that Swainson's hawk foraging habitat mitigation has been obtained at a ratio of 0.75 acre for each 1.00 acre of suitable foraging habitat developed. Suitable foraging habitat consists of row crops, forage crops, pasture, grasslands, or fallow fields that would be affected by construction activities. The applicant shall mitigate for loss of Swainson's hawk foraging habitat through (1) payment of an in-lieu fee for off-site preservation of foraging habitat to a resource agency or a third-party organization acceptable to a resource agency, or (2) acquisition of an irrevocable instrument (e.g., deed restriction or easement) for preservation of foraging habitat on a property that provides habitat of equal or greater quality.

Timing/Implementation: *Prior to construction activities*

Enforcement/Monitoring: *City of Orland Planning Department*

MM 3.2.1b **Migratory Birds.** If clearing and/or construction activities would occur during the bird nesting season (February 15–August 15), preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within 14 days of construction initiation. Preconstruction surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the project area and a 200-foot buffer. If no active nests are found, no further mitigation is required. Surveys shall be repeated if construction activities are delayed or postponed for more than 30 days.

If active nest sites are identified within 200 of project activities, the applicant shall impose an exclusionary buffer for all active nest sites prior to commencement of any project-related activities to avoid construction- or access-related disturbances to nesting birds. An exclusionary buffer constitutes an area where project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur and shall be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within the exclusionary buffer and the size (i.e., 100 feet) of exclusionary buffers may be adjusted through consultation with the City of Orland.

Timing/Implementation: *Reference to this requirement and to the MBTA will be included in the construction specifications. Preconstruction nest surveys will be conducted prior to the initiation of construction activities, as applicable.*

Enforcement/Monitoring: *City of Orland Planning Department*

Implementation of mitigation measures **MM 3.2.1a** and **MM 3.2.1b** would reduce the impacts to Swainson's hawk and migratory birds to a **less than significant** level.

Impacts to Riparian Habitat or Sensitive Natural Communities (Standard of Significance 2)

Impact 3.2.2 Implementation of project-related activities will not result in the disturbance, degradation, and/or removal of riparian habitat or sensitive natural communities. There would be **no impact**.

Westside Annexation Area & Pilot Flying J Project

Sensitive habitats include those that are of special concern to resource agencies and those that are protected under CEQA, Section 1600 of the Fish and Game Code, and Section 404 of the Clean Water Act. There are no sensitive habitats within the project area. Project-related activities are not anticipated to adversely affect riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFW or the USFWS.

No stream courses or other natural water features were observed during the reconnaissance-level survey of the PSA. Implementation of project activities would result in the loss of the ditch; however, this feature is man-made and supports ruderal annual grassland vegetation. The project is anticipated to have a **no impact** on riparian habitat and sensitive natural communities.

Mitigation Measures

None required.

Impacts to Federally Protected Wetlands (Standard of Significance 3)

Impact 3.2.3 Implementation of project-related activities could result in the disturbance, degradation, and/or removal of federally protected wetlands, which would be considered a **potentially significant** impact.

Westside Annexation Area & Pilot Flying J Project

One man-made ditch feature occurs in the PSA. This feature is indirectly hydrologically connected to Black Butte Reservoir; therefore, implementation of project-related activities may result in adverse impacts to federally protected waters should this feature be subject to Clean Water Act jurisdiction. It is recommended the project applicant consult with the USACE, RWQCB, and CDFW regarding the jurisdictional status of the on-site ditch. If the ditch is determined to be jurisdictional, implementation of **MM 3.2.3** will reduce potential impacts to a **less than significant** level.

Mitigation Measures

MM 3.2.3 **No Net Loss of Federally Protected Waters.** For every acre of ditch permanently or temporarily affected by the proposed project, the project applicant shall replace the affected acreage at a minimum 1:1 ratio or another approved ratio as determined by the USACE, CDFW, and/or RWQCB. Impacts shall be offset through the restoration and relocation of ditches within the project area, through purchase of credits, or with payment of an in-lieu fee.

Timing/Implementation: *Prior to construction activities*

Enforcement/Monitoring: *City of Orland Planning Department*

Implementation of mitigation measure **MM 3.2.3** would reduce impacts to federally protected wetlands to a **less than significant** level.

Impacts to Migratory Corridors (Standard of Significance 4)

Impact 3.2.4 Implementation of project-related activities will not adversely affect the movement of native resident or migratory fish or wildlife species or established migratory corridors. There will be **no impact**.

Westside Annexation Area & Pilot Flying J Project

The PSA may provide wildlife movement opportunities, as it is generally undeveloped open land; however, it does not support habitat or act as a major wildlife movement corridor that would require protection to preserve connection between habitat areas. Furthermore, the PSA is abutted by Interstate 5 to the east, which further impairs any corridor function. As a result, no impact to the movements of any native resident or migratory wildlife corridors or the use of native wildlife nursery sites will occur as a result of the proposed project. Therefore, no mitigation measures are proposed. Implementation of project-related activities is not expected to result in impacts to the movement of native resident or migratory fish or wildlife species or established migratory corridors. As such, there would be **no impact**.

Mitigation Measures

None required.

Conflicts with Local Policies or Ordinances Protecting Biological Resources (Standard of Significance 5)

Impact 3.2.5 Implementation of the proposed project is not expected to conflict with any local policies or ordinances protecting biological resources. As such, there would be **no impact**.

Westside Annexation Area & Pilot Flying J Project

The proposed project would not conflict with any local policies or ordinances protecting biological resources. The City has not adopted any biological ordinances with which this project conflicts. As such, **no impact** is anticipated, and no mitigation is required.

Mitigation Measures

None required.

Conflicts with an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Any Adopted Biological Resources Recovery or Conservation Plan of Any Federal or State Agency (Standard of Significance 6)

Impact 3.2.6 Implementation of project-related activities would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or any adopted biological resources recovery or conservation plan of any federal or state agency. As such, there would be **no impact**.

Westside Annexation Area & Pilot Flying J Project

There are no adopted habitat conservation plans, natural community conservation plans, or any adopted biological resources recovery or conservation plans in the proposed project area. As such, **no impact** is anticipated, and no mitigation is required.

Mitigation Measures

None required.

3.2.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The PSA and the surrounding area of Orland and surrounding municipalities must be considered for the purpose of evaluating land use conversion issues associated with biological resources on a cumulative level. In particular, this cumulative setting condition includes planned development under the current Land Use Element of the Orland General Plan, existing land use conditions, and planned and proposed land uses in communities near the PSA, as well as consideration of development patterns of communities in the rest of Glenn County. These land uses and developments have the potential to adversely affect the biological resources in the region and could considerably contribute to the cumulative loss of potential habitat in the region.

The implementation of project-related activities could contribute incrementally to the cumulative loss of wildlife habitat values, special-status species and their potential habitat, and wetland/aquatic resources in the region. On a cumulative level, the change in land uses will contribute to a loss of potential habitat for special-status species including but not limited to Swainson's hawks and migratory birds that currently inhabit the area or could inhabit the area in the future. In addition to potential direct impacts on biological resources from project-related activities, the increased human presence would be anticipated to cause potential indirect impacts. These could disturb breeding and foraging behavior of wildlife, and would result in a significant and unavoidable cumulative impact. The combined effect of all new developments approved or planned in the area would create a significant and unavoidable cumulative impact associated with increased human presence.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts on Biological Resources (Standards of Significance 1 Through 7)

Impact 3.2.6 The proposed project in combination with other reasonably foreseeable projects could result in mortality and loss of habitat for special-status species, wetlands, and waters of the United States. Therefore, this impact is considered **cumulatively considerable**.

The vegetation communities/habitats within the PSA represent only a small portion of the communities/habitats available for special-status species in the project vicinity. However, implementation of the proposed project may result in degradation of habitat through a variety of actions that, when combined with other habitat impacts occurring from development within surrounding areas, would result in significant cumulative impacts. Future development in the vicinity of the PSA would have an unknown and unquantifiable impact on special-status species, biologically sensitive habitats, and potentially jurisdictional wetlands and waters of the United States. Furthermore, increased development and disturbance created by human activities could result in direct mortality, habitat loss, and deterioration of habitat suitability. As project-related activities may contribute incrementally to these effects, the impact is considered **cumulatively considerable**.

Implementation of mitigation measures **MM 3.2.1a**, **MM 3.2.1b**, and **MM 3.2.3** described above will reduce the proposed project's impact and therefore result in a **less than cumulatively considerable** contribution to the cumulative impacts by mitigating the project's contribution to impacts to special-status species and sensitive habitats.

Mitigation Measures

No additional mitigation required.

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3.3 Cultural Resources

This section considers and evaluates the potential impacts of the proposed project on historical, cultural, and paleontological resources. Cultural resources are defined as prehistoric and historic sites, structures, and districts or any other physical evidence associated with human activity considered important to a culture, a subculture, or a community for scientific, traditional, or religious reasons. Paleontological resources include fossil remains, as well as fossil localities and formations that have produced fossil material. This section is based on a technical report provided by the Northern California Resource Center (NCRC) for the project area in 2015, which is contained in **Appendix 3.3**.

CONCEPTS AND TERMINOLOGY FOR EVALUATION OF CULTURAL RESOURCES

The following definitions are common terms used to discuss the regulatory requirements and treatment of cultural resources:

Cultural resources is the term used to describe several different types of properties: prehistoric and historical archaeological sites; architectural properties such as buildings, bridges, and infrastructure; and resources of importance to Native Americans.

Historic properties is a term defined by the National Historic Preservation Act as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on, the National Register of Historic Places (NRHP), including artifacts, records, and material remains related to such a property.

Historical resource as described in the California Environmental Quality Act (CEQA) includes buildings, sites, structures, objects, or districts, each of which may have historical, prehistoric, architectural, archaeological, cultural, or scientific importance and is eligible for listing or is listed in the California Register of Historical Resources (CRHR) or a local register of historical resources. The CRHR includes resources listed in, or formally determined eligible for listing in, the National Register of Historic Places, as well as some California State Landmarks and Points of Historical Interest.

Paleontological resource is defined as including fossilized remains of vertebrate and invertebrate organisms, fossil tracks and trackways, and plant fossils. A unique paleontological site would include a known area of fossil-bearing rock strata.

3.3.1 EXISTING SETTING

The project is located in Section 21, Township 22 North, Range 3 West, MDM, in Glenn County, California. The project is west of Interstate 5 (I-5). The proposed Pilot Flying J Travel Center is located at the southwest quadrant of I-5 and Newville Road. (The Pilot Flying J Travel Center site has specific development proposed, while the remaining parcels of the project area do not.) The triangular-shaped site is bordered to the northeast by Newville Road/County Road 200 and the southbound I-5 on-ramp, to the west by County Road HH, and to the south by County Road 13.

The project area is in a rural agricultural land area that is situated in the northern Sacramento Valley, with a 0–3 percent slope. This flat valley area is primarily part of massive alluvial fan deposits. The Sacramento River is approximately 10 miles to east of the project area and Black Butte Lake is located 8 miles west. The Black Butte Lake dam drains into Stony Creek, which flows about a half-mile north of Orland and the project area. The Orland area is described as having a Mediterranean climate. The Natural Resources Conservation Service describes the majority of

soil at the project area as Czk (Cortina, gravelly fine sandy loam, shallow). The smaller portion to the west is labeled Wh (Wyo gravelly loam, moderately deep over gravel.)

The land that was historically covered by native grasslands and riparian forest is currently dedicated to agriculture. Agriculture is the most extensive land use in Glenn County and the most significant component of the county's economy. Two-thirds of Glenn County's 1,317 square miles comprise agricultural croplands and pasture.

HISTORICAL SETTING

The project area is located within what is historically documented as Central Wintun (Nomlaki) territory. There were two major divisions of Nomlaki Indians in California: the Hill Nomlaki and the River Nomlaki. The Hill Nomlaki are identified as the Paskenta Band of Nomlaki Indians. It is this group that has ancestral ties to the Orland area, which includes the project area.

Euro-American contact with Native American groups living in the Central Valley of California began during the last half of the eighteenth century. At this time, the attention of Spanish missionaries shifted away from the coast, and its dwindling Native American population, to the conversion and missionization of interior populations.

Following Euro-American contact, the land was bought to farm, especially with the advent of a canal system and a railroad hub nearby; this made the land particularly attractive. The population of California was growing and food producers were needed. The Orland area was particularly suited for fruit and nut trees. At the turn of the previous century, alfalfa, sugar beets, and grains were the more common crops produced in the irrigated fields. A historical 1855 plat map of the area was viewed (see **Appendix 3.3**). In 1855, nothing was present to plot on the map, but Stony Creek is evident as is a small drainage that would have been located east of the project area, probably where Interstate 5 is currently located.

SURVEY OF THE PROJECT AREA

The Northern California Resources Center conducted a complete pedestrian survey on December 22, 2014.

Westside Annexation Area

Recent activity was observed on all parcels of the Westside Annexation Area. For instance, on one of the Westside Annexation Area parcels, a contemporary truck farm operation seems have been in operation with rows of crops with plastic dripline irrigation installed. The operation has been abandoned, but it appears to have been abandoned recently as evidenced by the observation of onions and kale vegetables and various herbs such as thyme and rosemary growing. This was a modern endeavor (NCRC 2015). The house on this parcel (current use agriculture and single-family home) and surrounding outbuildings appear to be of an older style, though there are modern fixtures and an electric meter. The concrete on the side of the house with the date 1950 impressed on it could indicate the house's age, yet it is more likely that this was poured after the house was built (NCRC 2015). Judging by the size of the grapefruit, tangerine, and orange trees in the side yard, the building could be older than 1950, but it would be hard to tell without further investigation and a study of the house specifically. For the scope of this project—annexation of the property—historical documentation of the house and outbuilding was not necessary. In the backyard area is a very large producing olive tree. On the north end of this parcel is an old barn and an abandoned ditch with cottonwood trees and

saplings overgrown in front. The barn looks to date from before 1950, yet as previously stated it is currently being used.

Other parcels of the Westside Annexation Area currently accommodate a single-family home (APN 045-140-012), a gas station (APN 045-140-003), Eagles Hall (APN 045-170-003), and a single-family home (APN 045-140-011). These parcels have current use, pavement, modern facilities, and compacted gravel.

Pilot Flying J Travel Center Site

The Pilot Flying J Travel Center Travel Center site (APN 045-170-005) was flat and easily walked, except for the abundance of tall, dry weeds in several areas. Along the west side bordering Interstate 5, a large real estate "for sale" sign was on the ground. By the size of it, the sign was probably for viewing by freeway travelers. There was other debris such as various papers, and empty plastic containers, probably blown in from freeway littering. On the north border of this parcel just inside the fence, a feral cat feeding station, new plastic dishes, and recently emptied cat food cans could be seen, as well as a cardboard shelter. Other miscellaneous items found in this field were aluminum beer cans, aluminum soda cans, plastic bottles, and various other debris dating from recent times.

A small field ditch running north to south is located on the parcel identified for the Pilot Flying J Travel Center project location; the ditch was mapped. The ditch spans the length of the fenced field (see **Appendix 3.3**). Eight small gates are located along the segment of the small field ditch. It appears this feature had been used for flood irrigating the pasture. The small gate bases are constructed of cement, and the removable gates are made of thin milled wood. Nine gates were found; some of the gates were still in place, and five were scattered or broken. The ditch is shallow at approximately 1 foot deep and 1.5 feet wide, heavily overgrown, and appears to have been abandoned for many years. Historically, the general area around Orland in the early 1900s was used for alfalfa, grains, and pasture. It is likely that this small ditch was one of many in the vicinity used for irrigation purposes. There were over 100 miles of small field ditches used in this way, getting their water from the Stony Creek Canal and Irrigation system. Although this ditch may be more than 50 years old, the ditches are part of an unused lateral ditch system. They are very common and do not appear to represent anything unique or sensitive.

Several areas were exposed to see barren ground. Orange pin flags were at these locations; it is assumed these were recent perk holes. Along the west boundary fence of this field was an aluminum water trough. It is currently filled in with weeds and soil.

RECORDS SEARCH

The Northeast Center of the California Historical Resources Information System (CHRIS) was contacted on December 15, 2014, to request information on previous archaeological surveys within a one-quarter-mile proximity of the project area. A letter of response was received on January 6, 2015 (on file at NCRC) indicating that no previously documented projects are within a quarter mile of the current project area.

According to the January 6, 2015, written response received from CHRIS, no prehistoric or pre-contact archaeological sites are documented anywhere in the project-area vicinity. According to CHRIS, no historic sites have been recorded within the project area or a one-quarter-mile vicinity.

An inquiry was sent to the Native American Heritage Commission (NAHC) on December 12, 2014, requesting information on any known archaeological or cultural sites or any unrecorded traditional cultural properties (see **Appendix 3.3**). The response received from the NAHC on December 30, 2014, indicated an absence of cultural resources or known sacred land sites through their record search of the sacred lands files. The NAHC sent a list of Native American individuals and groups to contact regarding the project area. Letters were written to each of those recommended Native American contacts, and copies of the letters are included in **Appendix 3.3**. At the time of the cultural report, a fax was received from Ren Reynolds of the Enterprise Rancheria of Maidu Indians in which it was stated that the area was not a Maidu area. No other Native American responses were received by the NCRC by the time the cultural report was written.

3.3.2 REGULATORY FRAMEWORK

FEDERAL

National Historic Preservation Act of 1966

The National Historic Preservation Act of 1966 requires that the federal government list significant historic resources on the National Register of Historic Places. Federal agencies must consult the NRHP when planning to undertake or grant approval through permits for a project. Prior to the issuance of any license or implementation of any project, the federal agency must consider the effects of a project or license on any historical buildings, sites, structures, or objects that are included on, or eligible for inclusion on, the NRHP (16 US Code Section 470(f)). This typically includes consultation with the federal agency responsible for the undertaking, the state historic preservation officer, local Native American groups and individuals, local and state historical societies and organizations, and relevant archival sources, including the appropriate facility of the California Historical Resources Information System.

STATE

California Register of Historical Resources

The State Historical Resources Commission has designed the California Register of Historic Resources for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The CRHR is the authoritative guide to the state's significant historical and archeological resources. This program encourages public recognition and protection of resources of architectural, historical, archeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and affords certain protections under CEQA.

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. Pursuant to Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

Historical resource is a term with a defined statutory meaning (PRC Section 21084.1; determining significant impacts to historical and archaeological resources is described in CEQA Guidelines Section 15064.5[a], [b]). Under CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (PRC Section 5024.1).

2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources (PRC Section 5024.1), including the following:

    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    b) Is associated with the lives of persons important in our past;

    c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    d) Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Section 5020.1(j) or Section 5024.1.

Historic resources are usually 45 years old or older and must meet at least one of the criteria for listing in the CRHR, described above (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of physical integrity.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC Section 5024.1 and California Code of Regulations (CCR), Title 14, Section 4850). Unless a

resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

For historic structures, CEQA Guidelines Section 15064.5(b)(3) indicates that a project which follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings, or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995) shall be considered as mitigating impacts to a less than significant level.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. Public Resources Code Section 21083.2(g) states:

> *"Unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*
>
> - *Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
> - *Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
> - *Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

Treatment options under Section 21083.2 include activities that preserve such resources in place in an undisturbed state. Other acceptable methods of mitigation under Section 21083.2 include excavation and curation or study in place without excavation and curation (if the study finds that the artifacts would not meet one or more of the criteria for defining a unique archaeological resource).

Section 7050.5(b) of the California Health and Safety Code specifies protocol when human remains are discovered, as follows:

> *In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.*

CEQA Guidelines Section 15064.5(e) requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the

Native American Heritage Commission. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the CEQA Guidelines require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5(f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

Paleontological resources are classified as nonrenewable scientific resources. California Public Resources Code Section 5097.5 et seq. makes it a misdemeanor for anyone to knowingly disturb any archaeological, paleontological, or historical features situated on public lands. No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earthmoving on state or private land in a project area.

3.3.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Following Public Resources Code Sections 21083.2 and 21084.1, and Section 15064.5 and Appendix G of the CEQA Guidelines, cultural resource impacts are considered to be significant if implementation of the project considered would result in any of the following:

1) Cause a substantial adverse change in the significance of a historical resource as defined in Public Resources Code Section 21084.1 and CEQA Guidelines Section 15064.5.

2) Cause a substantial adverse change in the significance of an archaeological resource as defined in Public Resources Code Sections 21083.2 and 21084.1, and CEQA Guidelines Section 15064.5.

3) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

4) Disturb any human remains, including those interred outside of formal cemeteries.

State CEQA Guidelines Section 15064.5 defines "substantial adverse change" as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource is materially impaired.

CEQA Guidelines Section 15064.5, subdivision (b)(2), defines "materially impaired" for purposes of the definition of substantial adverse change as follows:

The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

CEQA requires that if a project would result in an effect that may cause a substantial adverse change in the significance of a historical resource or would cause significant effects on a unique archaeological resource, alternative plans or mitigation measures must be considered. Therefore, prior to assessing effects or developing mitigation measures, the significance of cultural resources must first be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are as follows:

- Identify potential historical resources and unique archaeological resources.
- Evaluate the eligibility of historical resources.
- Evaluate the effects of the project on eligible historical resources.

METHODOLOGY

The impact analysis below is based primarily on the cultural resource assessment survey conducted by NCRC for the project area in January 2015 (**Appendix 3.3**). A pedestrian survey of the project area was conducted on December 15, 2014, by NCRC archaeologist Kathleen Tyler and Archaeology Field Technician Allenya Manning. In addition, a records and sacred lands search was conducted as discussed above. The potential impacts of the proposed project on cultural resources were evaluated by considering both construction activities and operational impacts of the proposed project, and mitigation has been identified for each significant impact in this section.

PROJECT IMPACTS AND MITIGATION MEASURES

Potential Destruction or Damage to Historical Resources or Archaeological Resources (Standards of Significance 1 and 2)

Impact 3.3.1 Unanticipated and accidental archaeological discoveries are possible during project implementation, especially during excavation, and have the potential to impact unique archaeological resources. Therefore, the project would have a **potentially significant** impact.

Westside Annexation Area

As stated in Section 2.0, Project Description, other than development of 7.5 acres with the Pilot Flying J Travel Center, all existing uses in the area to be annexed by the City are to remain as currently existing, and no development of these areas has been proposed as a part of this

project. However, in order to ascertain the potential for environmental impact resulting from annexation of this additional 12.13 acres (known as the Westside Annexation Area), a development potential for each individual parcel has been assumed based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed (see **Table 2.0-1**). Based on the development potential shown in **Table 2.0-1**, the Westside Annexation Area could result in 1.7 acres of new commercial uses. The remaining acreage of the Westside Annexation Area already accommodates existing uses. Construction of 1.7 acres would include grading of the site, which may uncover undiscovered cultural resources. As such, there is a **potentially significant** impact to cultural resources. However, implementation of mitigation measure **MM 3.3.1** would reduce the impact to historical and archaeological resources to a **less than significant** level.

Pilot Flying J Project

According to the NCRC archaeological survey, no resources on the Pilot Flying J site have the potential to yield additional information of historic value, are associated with persons or events important to history, or are considered eligible for listing on the CRHR and/or can be considered eligible for NRHP inclusion. However, this was just a surface survey and as stated in the NCRC report, no surface survey can guarantee to have located subsurface archaeological materials if they are present (NCRC 2015, p. 10). Construction of the project would include grading of the site, which may uncover undiscovered cultural resources. As such, the Pilot Flying J project could result in a **potentially significant** impact to cultural resources.

Mitigation Measures

MM 3.3.1 If any prehistoric and/or historic resources or other indications of cultural resources are found during future development of the site, all work in the immediate vicinity of the find must stop and the City of Orland Planning Department shall be immediately notified. An archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be retained to evaluate the finds and recommend appropriate mitigation measures.

Timing/Implementation: *During grading and construction activities*

Enforcement/Monitoring: *City of Orland Planning Department; project contractor*

Implementation of mitigation measure **MM 3.3.1** would reduce the impact to historical and archaeological resources to a **less than significant** level.

Potential Destruction or Damage to Paleontological Resources (Standard of Significance 3)

Impact 3.3.2 No known paleontological resources exist within the project area. Regardless, unanticipated and accidental paleontological discoveries are possible during project implementation, especially excavation, and have the potential to impact unique paleontological resources. Therefore, the project would have a **potentially significant** impact.

Westside Annexation Area

While no specific project is proposed in the Westside Annexation Area and no change in development is anticipated for this area, as previously discussed it does contain the development potential of 1.7 acres of new commercial uses (the remaining acreage of the Westside Annexation Area already accommodates existing uses). Construction of 1.7 acres would include grading of the site, which may uncover undiscovered paleontological resources. As such, there is a **potentially significant** impact to these resources. However, implementation of mitigation measure **MM 3.3.2** would reduce the impact to paleontological resources to a **less than significant** level.

Pilot Flying J Project

A paleontological survey was not completed for the Pilot Flying J site. As such, the potential for paleontological resources on the site cannot be specifically determined. However, according to the City of Orland General Plan DEIR, a search of the University of California Museum of Paleontology collections database identified 21 paleontological resources in Glenn County (Orland 2010b, p. 4.5-12). These resources primarily consist of vertebrates and invertebrates. The database search did not identify any paleontological resources in the City's Planning Area; however, because of the abundance of paleontological resources in Glenn County, it is possible that these resources may exist on-site. As such, this is considered a **potentially significant** impact.

Mitigation Measures

MM 3.3.2 If any paleontological resources are found during future development of the site, all work in the immediate vicinity of the find must stop and the City of Orland Planning Department shall be immediately notified. A qualified paleontologist (i.e., one with a graduate degree in paleontology, geology, or a related field and having demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California) shall be retained to evaluate the finds and recommend appropriate mitigation measures.

Timing/Implementation: *During grading and construction activities*

Enforcement/Monitoring: *City of Orland Planning Department; project contractor*

Implementation of mitigation measure **MM 3.3.2** would reduce the impact to paleontological resources to a **less than significant** level.

Disturb Human Remains (Standard of Significance 4)

Impact 3.3.3 No human remains have been identified on the project area. Regardless, unanticipated discoveries of human remains are possible during project implementation, especially excavation. Therefore, the project would have a **potentially significant** impact.

Westside Annexation Area

While no specific project is proposed in the Westside Annexation Area and no change in development is anticipated for this area, as previously discussed it does contain the development potential of 1.7 acres of new commercial uses (the remaining acreage of the

Westside Annexation Area already accommodates existing uses). Construction of 1.7 acres would include grading of the site, which may uncover undiscovered human remains. As such, there is a **potentially significant** impact. However, implementation of mitigation measure **MM 3.3.3** would reduce this impact to a **less than significant** level.

Pilot Flying J Project

According to the NCRC archaeological survey, no resources on the Pilot Flying J site have the potential to yield additional information regarding human remains on the site. Additionally, no information was received regarding the potential for Native American remains at the site. However, this was just a surface survey and as stated in the NCRC report, no surface survey can guarantee to have located subsurface archaeological materials if they are present (NCRC 2015, p. 10). Construction of the project would include grading of the site, which may uncover undiscovered human remains. As such, the Pilot Flying J project has the potential to result in a **potentially significant** impact.

Mitigation Measures

MM 3.3.3 If human remains are discovered during future development of the site, all work must stop in the immediate vicinity of the find and the Glenn County Coroner shall be notified, per California Health and Safety Code Section 7050.5. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

Timing/Implementation: *During future grading and construction activities*

Enforcement/Monitoring: *City of Orland Planning Department; project contractor*

Implementation of mitigation measure **MM 3.3.3** would reduce the impacts to human remains to a **less than significant** level.

3.3.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting associated with the proposed project includes approved, proposed, planned, and other reasonably foreseeable projects and development in Orland and surrounding Glenn County. Developments and planned land uses, including the proposed project, would cumulatively contribute to impacts to cultural resources in the city.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts on Historic Resources, Prehistoric Resources, and Human Remains (Standards of Significance 1, 2, and 4)

Impact 3.3.4 Implementation of the proposed project, along with any foreseeable development in the project vicinity, could result in cumulative impacts to cultural resources (i.e., prehistoric sites, historic sites, isolated artifacts and features) and human remains. No significant resources have been identified. This impact would be considered **less than cumulatively considerable.**

No historic resources, prehistoric resources, or human remains were discovered during the cultural resources survey for the proposed project. Implementation of mitigation measures **MM 3.3.1** and **MM 3.3.3** would reduce any undiscovered cultural resource impacts to a less than significant level. Therefore, when considered with other cumulative development in Orland and surrounding areas, this project would not result in a cumulative loss and/or disturbance of cultural resources (i.e., prehistoric sites, historic sites, and isolated artifacts and features), or human remains.

Mitigation Measures

None required.

Cumulative Impacts on Paleontological Resources (Standard of Significance 3)

Impact 3.3.5 Implementation of the proposed project would not cause significant impacts to any paleontological resources. Therefore, when considered with any foreseeable development in the project vicinity, the project would not result in cumulative impacts to paleontological resources. Implementation of the project would result in a **less than cumulatively considerable** impact.

Implementation of the proposed project would not result in any significant impacts to paleontological resources. The proposed project, in combination with cumulative development in the surrounding region, would not increase the potential to disturb known and undiscovered paleontological resources in the region. Additionally, mitigation measure **MM 3.3.3** would reduce impacts to paleontological resources to a less than significant level and therefore reduce the potential for cumulative impacts to these resources.

Mitigation Measures

None required.

REFERENCES

NCRC (Northern California Resource Center). 2015. *Archaeological Resource Survey Report for the Proposed Pilot Flying J Travel Center Project*.

Orland, City of. 2010a. *City of Orland General Plan 2008–2028*. http://cityoforland.com/govt/dept/planning/forms.asp.

———. 2010b. *General Plan Update Draft Environmental Impact Report,* SCH No. 2008102073. http://www.cityoforland.com/_documents/OrlandGeneralPlanDEIR27-0153_FINAL6-25.pdf.

3.4 Greenhouse Gases and Climate Change

This section discusses the proposed project's potential for greenhouse gas emissions and climate change. This information is based on criteria air pollutant emissions using the California Emissions Estimator Model (CalEEMod).

3.4.1 EXISTING SETTING

Since the early 1990s, scientific consensus holds that the world's population is releasing greenhouse gases (GHGs) faster than the earth's natural systems can absorb them. These gases are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as "the greenhouse effect," human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to a warming of the earth and has the potential to severely impact the earth's climate system.

While often used interchangeably, there is a difference between the terms *climate change* and *global warming*. According to the National Academy of Sciences, climate change refers to any significant, measurable change of climate lasting for an extended period of time that can be caused by both natural factors and human activities. Global warming, on the other hand, is an average increase in the temperature of the atmosphere caused by increased GHG emissions. The use of the term *climate change* is becoming more prevalent because it encompasses all changes to the climate, not just temperature.

To fully understand global climate change, it is important to recognize the naturally occurring greenhouse effect and to define the GHGs that contribute to this phenomenon. Various gases in the earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Table 3.4-1 provides descriptions of the primary GHGs attributed to global climate change, including a description of their physical properties, primary sources, and contribution to the greenhouse effect.

TABLE 3.4-1
GREENHOUSE GASES

Greenhouse Gas	Description
Carbon Dioxide (CO_2)	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
Methane (CH_4)	Methane is a colorless, odorless gas that is not flammable under most circumstances. Methane is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about12 years.[2]
Nitrous Oxide (N_2O)	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. Nitrous oxide is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1] EPA 2011a, [2] EPA 2011b, [3] EPA 2010

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Methane traps over 21 times more heat per molecule than CO_2, and N_2O absorbs 310 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e), which weigh each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted. **Table 3.4-2** shows the global warming potential for different greenhouse gases for a 100-year time horizon.

TABLE 3.4-2
GLOBAL WARMING POTENTIAL FOR GREENHOUSE GASES

Greenhouse Gas	Global Warming Potential
Carbon Dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310

Source: California Climate Action Registry 2009

As the name implies, global climate change is a global problem. Greenhouse gases are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California is a significant emitter of CO_2e in the world

and produced 452 million gross metric tons of CO_2e in 2010 (CARB 2013). Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2010, accounting for 38.3 percent of total GHG emissions in the state (CARB 2013). This category was followed by the electric power sector (including both in-state and out-of-state sources) (20.7 percent) and the industrial sector (19.0 percent) (CARB 2013).

EFFECTS OF GLOBAL CLIMATE CHANGE

California can draw on substantial scientific research conducted by experts at various universities and research institutions. With more than a decade of concerted research, scientists have established that the early signs of climate change are already evident in the state—as shown, for example, in increased average temperatures, changes in temperature extremes, reduced snowpack in the Sierra Nevada, sea level rise, and ecological shifts.

Many of these changes are accelerating locally, across the country, and around the globe. As a result of emissions already released into the atmosphere, California will face intensifying climate change in coming decades (CNRA 2009). Generally, research indicates that California should expect overall hotter and drier conditions, with a continued reduction in winter snow (with concurrent increases in winter rains), as well as increased average temperatures and accelerating sea-level rise. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing (CNRA 2009). According to the 2009 California Climate Adaptation Strategy, the impacts of climate change in California have the potential to include, but are not limited to, the areas discussed in **Table 3.4-3**.

TABLE 3.4-3
POTENTIAL STATEWIDE IMPACTS FROM CLIMATE CHANGE

Potential Statewide Impact	Description
Public Health	Climate change is expected to lead to an increase in ambient (i.e., outdoor) average air temperature, with greater increases expected in summer. Larger temperature increases are anticipated in inland communities as compared to the California coast. The potential health impacts from sustained and significantly higher than average temperatures include heat stroke, heat exhaustion, and the exacerbation of existing medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Numerous studies have indicated that there are generally more deaths during periods of sustained higher temperatures. The elderly, infants, and socially isolated people with pre-existing illnesses who lack access to air conditioning or cooling spaces are among the most at risk during heat waves.
Floods and Droughts	The impacts of flooding may include population displacement, severe psychosocial stress with resulting mental health impacts, exacerbation of pre-existing chronic conditions, and infectious disease. Additionally, impacts can range from a loss of personal belongings, and the emotional ramifications from such loss, to direct injury and/or mortality. Drinking water contamination outbreaks in the United States are associated with extreme precipitation events. Runoff from rainfall is also associated with coastal contamination that can lead to contamination of shellfish and contribute to food-borne illness. Floodwaters may contain household, industrial, and agricultural chemicals, as well as sewage and animal waste. Flooding and heavy rainfall events can wash pathogens and chemicals from contaminated soils, farms, and streets into drinking water supplies. Flooding may also overload storm and wastewater systems, or flood septic systems, also leading to possible contamination of drinking water systems. Drought impacts develop more slowly over time. Risks to public health that Californians may face from drought include impacts on water supply and quality, food production

Potential Statewide Impact	Description
	(both agricultural and commercial fisheries), and risks of waterborne illness. As surface water supplies are reduced as a result of drought conditions, the amount of groundwater pumping is expected to increase to make up for the water shortfall. The increase in groundwater pumping has the potential to lower the water tables and cause land subsidence. Communities that utilize well water will be adversely affected by drops in water tables or through changes in water quality. Groundwater supplies have higher levels of total dissolved solids compared to surface waters. This introduces a set of effects for consumers, such as repair and maintenance costs associated with mineral deposits in water heaters and other plumbing fixtures, and on public water system infrastructure designed for lower salinity surface water supplies. Drought may also lead to increased concentration of contaminants in drinking water supplies.
Water Resources	The state's water supply system already faces challenges to provide water for California's growing population. Climate change is expected to exacerbate these challenges through increased temperatures and possible changes in precipitation patterns. The trends of the last century, especially increases in hydrologic variability, will likely intensify in this century. The state can expect to experience more frequent and larger floods and deeper droughts. Rising sea level will threaten the Delta water conveyance system and increase salinity in near-coastal groundwater supplies.
Forests and Landscapes	Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, wildfire occurrence statewide could increase from 57% to 169% by 2085. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state.

Source: CNRA 2009

3.4.2 REGULATORY FRAMEWORK

The adoption of recent legislation has provided a clear mandate that climate change must be included in an environmental review for a project. Several GHG emission–related laws and regulations are provided below.

STATE REGULATIONS

California has adopted various administrative initiatives and also enacted a variety of legislation relating to climate change, much of which sets aggressive goals for GHG emissions reductions in the state. However, none of this legislation provides definitive direction regarding the treatment of climate change in environmental review documents prepared under CEQA. In particular, the CEQA Guidelines do not require or suggest specific methodologies for performing an assessment or specific thresholds of significance and do not specify GHG reduction mitigation measures. Instead, the guidelines allow lead agencies to choose methodologies and make significance determinations based on substantial evidence, as discussed in further detail below. In addition, no state agency has promulgated binding regulations for analyzing GHG emissions, determining their significance, or mitigating significant effects in CEQA documents. Thus, lead agencies exercise their discretion in determining how to analyze GHGs.

The discussion below provides a brief overview of the primary legislation relating to climate change that may affect the emissions associated with the proposed project. It begins with an overview of the primary regulatory acts that have driven GHG regulation and analysis in California.

Executive Order S-3-05 (Statewide GHG Targets)

California Executive Order S-03-05 (2005) mandates a reduction of GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. Although the 2020 target has been incorporated into legislation (AB 32), the 2050 target remains only a goal of the Executive Order.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

The California Global Warming Solutions Act of 2006 (AB 32) (Health and Safety Code Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599) instructs the California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a greenhouse gas emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

AB 32 Scoping Plan

CARB adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business as usual"). The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. Additional development of these measures and adoption of the appropriate regulations occurred through the end of year 2013. The key elements of the Scoping Plan include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent.
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions.
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, heavy-duty truck measures, and the Low Carbon Fuel Standard.
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation. (CARB 2008)

In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relies on emissions projections updated in light of current economic forecasts that account for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This reduced the projected 2020 emissions from 596 million metric tons (MMT) CO_2e to 507 $MMTCO_2e$. The reduction in projected 2020 emissions means that the revised business-as-usual (BAU) reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 16 percent.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes the most recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal established in Executive Order S-3-05, though not yet adopted as state law, and observes that "a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal." The Scoping Plan update does not establish or propose any specific post-2020 goals.

Assembly Bill 1493 and Advanced Clean Cars Program

Assembly Bill 1493 ("the Pavley Standard," or AB 1493, 2005) (Health and Safety Code Sections 42823 and 43018.5) aimed to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009–2016. The bill also required the California Climate Action Registry to develop and adopt protocols for the reporting and certification of GHG emissions reductions from mobile sources for use by CARB in granting emissions reduction credits.

In 2012, CARB approved the Advanced Clean Cars Program, a new emissions-control program for model years 2017–2025. The program combines the control of smog, soot, and GHG emissions with requirements for greater numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

Low Carbon Fuel Standard

Executive Order S-01-07 (2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB. CARB identified the Low Carbon Fuel Standard (LCFS) as a discrete early action item under AB 32. The regulation took effect in 2010 and is codified at Title 17, California Code of Regulations, Sections 95480–95490. The LCFS will reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020. Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the "life cycle" of a transportation fuel.

Renewables Portfolio Standard (Senate Bill 1078, Senate Bill 107, and Senate Bill X1-2)

Established in 2002 under Senate Bill (SB) 1078, and accelerated in 2006 under SB 107 and again in 2011 under SBX1-2, California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Scoping Plan. As an interim measure, the RPS requires 25 percent of retail sales to be sourced from renewable energy by 2016.

California Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were originally adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2008 (Title 24, Part 6, of the California Code of Regulations). In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Title 24, Part 11) was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations). Part 11 establishes voluntary standards on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. Current mandatory standards include:

- Twenty (20) percent mandatory reduction in indoor water use, with voluntary goal standards for 30, 35, and 40 percent reductions.
- Separate water meters for nonresidential buildings' indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects.
- Diversion of 50 percent of construction waste from landfills, increasing voluntarily to 65 and 75 percent for new homes and 80 percent for commercial projects.
- Wastewater reduction measures including the requirement that each building reduce the generation of wastewater through the installation of water conservation fixtures or by using non-potable water systems.
- Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies.
- Low-pollutant-emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard.

The California Energy Commission recently adopted changes to the 2013 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1 (collectively referred to here as the standards). The amended standards took effect in the summer of 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. Energy-efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

3.4.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the application of the following State CEQA Guidelines Appendix G thresholds of significance:

1) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Addressing GHG generation impacts requires a determination as to what constitutes a significant impact. Determining a threshold of significance for GHG-related impacts poses a special difficulty since much of the science in this area is new and is evolving constantly. At the same time, neither the State nor local agencies is specialized in this area, and there are currently no local, regional, or state thresholds for determining whether a commercial land use development has a significant impact on climate change. The CEQA Amendments do not prescribe specific significance thresholds but instead leave considerable discretion to lead agencies to develop appropriate thresholds to apply to development projects within their jurisdiction.

As noted earlier, AB 32 is a legal mandate requiring that statewide GHG emissions be reduced to 1990 levels by 2020. In adopting AB 32, the legislature determined the necessary GHG reductions for the State to make in order to sufficiently offset California's contribution to the cumulative climate change problem to reach 1990 levels. AB 32 is the only legally mandated requirement for the reduction of GHGs. As such, compliance with AB 32 is the only adopted basis on which to base a significance threshold for evaluating GHG impacts.

Therefore, in terms of evaluating potential project-related impacts from the generation of GHG emissions, the components of the project are compared to the emissions reductions goals of AB 32. As previously stated, CARB adopted the Scoping Plan in 2008 to achieve the goals of AB 32, which determined that achieving the 1990 emission level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as business as usual or BAU).[1] In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relies on emissions projections updated in light of current economic forecasts that account for the economic downturn since 2008 as well as reduction measures already approved and put in place relating to future fuel and energy demand, in addition to other factors. This reduced the projected 2020 emissions from 596 million metric tons of CO_2e to 507 million metric tons of CO_2e. The reduction in projected 2020 emissions means that the revised BAU reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 is now 16 percent.

For the purposes of this assessment, proposed project components are compared to the achievement of at least a 16 percent reduction in GHG emissions as compared to BAU in order to provide a conservative assessment. In order to ascertain the achievement of a 16 percent reduction compared to BAU, quantification of development-specific GHG emissions is required.

[1] Business as usual (BAU) is the project's projected GHG emissions level in 2020 under the assumption that consumption patterns and efficiencies are maintained at their 2005 levels. Under a BAU scenario, state, regional, and project-level efforts to reduce GHG emissions are not taken into consideration; rather, the BAU assumes the year 2005 status quo.

In the case that the project is demonstrated to have reduced or mitigated its GHG emissions by at least 16 percent compared to BAU, consistent with GHG emissions reduction targets established in the CARB AB 32 Scoping Plan, it would be determined to have a less than significant individual and cumulative effect on global climate change. To be conservative, total construction-generated GHG emissions were amortized over the estimated life of the development and included with operational emissions for comparison to the significance thresholds. A life of 30 years was assumed.

METHODOLOGY

As stated in Section 2.0, Project Description, the proposed project includes two components: (1) the annexation by the City of Orland of a total of six parcels and roadways, and (2) the development of a proposed Pilot Flying J Travel Center. The total area of annexation is 19.63 acres. However, a 7.5-acre portion of one of the six parcels is analyzed separately in this EIR as the Pilot Flying J Travel Center project. This is done because the Pilot Flying J Travel Center site has specific development proposed, while the remaining parcels do not. Other than development of 7.5 acres with the Pilot Flying J Travel Center, all existing uses in the area to be annexed by the City are to remain as currently existing, and no development of these areas has been proposed as a part of this project. However, in order to ascertain the potential for environmental impact resulting from annexation of this additional 12.13 acres (known as the Westside Annexation Area), a development potential for each individual parcel has been assumed based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed (see **Table 2.0-1**). Based on the development potential shown in **Table 2.0-1**, the Westside Annexation Area could result in 1.7 acres of new commercial uses. The remaining acreage of the Westside Annexation Area already accommodates existing uses.

Criteria air pollutant emissions were modeled using the California Emissions Estimator Model (CalEEMod) for both the development potential of the Westside Annexation Area and the proposed Pilot Flying J Travel Center. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Detailed construction schedules for the Westside Annexation Area are not currently known, as no development projects are proposed for this area at this time. Therefore, potential construction-generated emissions associated the current development potential in the Westside Annexation Area (see **Table 2.0-1**) were calculated using the default settings for Glenn County contained in the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Operational emissions associated with the development potential in the Westside Annexation Area were also estimated using CalEEMod defaults. Construction-generated emissions associated with the Pilot Flying J Travel Center were calculated using the CalEEMod computer program accounting for the 4.5-month construction time frame noted in Section 2.0, Project Description. Emissions generated during operations account for the estimated traffic trip generation rates derived from the traffic impact analysis (KD Anderson 2015) prepared for the travel center.

PROJECT IMPACTS AND MITIGATION MEASURES

Generate Greenhouse Gas Emissions That May Have a Significant Impact on the Environment (Standards of Significance 1 and 2)

Impact 3.4.1 Implementation of the proposed project will result in greenhouse gas emissions that would further contribute to significant impacts on the environment. This is considered a **cumulatively considerable** impact.

GHG emissions associated with new development occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust, as well as long-term regional emissions, primarily associated with new vehicular trips and indirect source emissions, such as electricity usage for lighting.

Westside Annexation Area

As previously stated, for the purposes of evaluating potential GHG-related impacts, the potential development in the Westside Annexation Area is compared to the achievement of at least a 16 percent reduction in GHG emissions as compared to BAU in order to provide a conservative assessment. As shown in **Table 3.4-4**, the development potential of the Westside Annexation Area could produce 2,168 metric tons of CO_2e annually under BAU conditions, primarily from motor vehicles. For purposes of this assessment, the total emissions of 2,168 metric tons of CO_2e per year are considered the BAU figure.

TABLE 3.4-4
ESTIMATED WESTSIDE ANNEXATION AREA GHG EMISSIONS UNDER BAU OPERATIONS
(METRIC TONS PER YEAR)

Emissions Source	CO_2e
Construction Amortized over 30 Years	14
Area Source (landscaping, hearth)	0
Energy	116
Mobile	2,007
Waste	21
Water	10
Total	**2,168**

*Source: CalEEMod version 2013.2.2. See **Appendix 3.4** for emission model outputs.*

Notes: BAU emissions projections account for development-generated emissions without any greenhouse gas reduction measures, i.e., emissions presented are not adjusted for future improved CAFÉ standards (Pavley I) and Low Carbon Fuel Standards, or the 2011 Renewables Portfolio Standard. The Pacific Gas & Electric year 2005 emissions factor of 489 pounds of CO_2 per megawatt of energy generated (PG&E 2014) was used to account for energy-related BAU greenhouse gas emissions. As stated in Section 2.0, Project Description, for environmental analysis purposes, it is assumed that the Westside Annexation Area has the potential to result in 44,000 square feet of new commercial uses on 1.7 acres.

Several State-led GHG emissions–reducing regulations have recently taken effect, and changes to regulations will continue to take effect in the near future that will substantially reduce GHG emissions. For instance, implementation of Assembly Bill 1493 (the Pavley Standard) (Health and Safety Code Sections 42823 and 43018.5) will significantly reduce the amount of GHGs emitted from passenger vehicles. The Pavley Standard aims to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009–2016 by requiring increased fuel efficiency standards of automobile manufacturers. The program combines the control of smog, soot, and GHG emissions with requirements for greater numbers of zero-emission vehicles. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions. Additionally, the California Low Carbon Fuel Standard (LCFS) reduces GHG emissions by reducing the carbon intensity of transportation fuels by 10 percent. As passenger vehicles represent the single largest source of GHGs associated with development of the Westside Annexation Area, the anticipated reduction associated with the Pavley Standard and the LCFS represent 428 fewer metric tons per year (see **Table 3.4-5**).

The electricity provider for Glenn County, Pacific Gas and Electric Company (PG&E), is subject to California's Renewables Portfolio Standard. The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020, which will have the effect of reducing GHG emissions generated during energy production. For example, from 2005 to 2012, PG&E increased its purchase of renewable source-generated electricity to levels that currently account for just over half of its total power mix (PG&E 2014). Largely due to this strategy, PG&E's reduction of its CO_2 emission intensity factor between business as usual and the potential development in the Westside Annexation Area would result in 9 fewer metric tons per year of GHGs (1 fewer metric ton per year attributed to water conveyance) as shown in **Table 3.4-5**.

TABLE 3.4-5
GHG REDUCTIONS FOR WESTSIDE ANNEXATION AREA FROM APPLICATION OF RECENT REGULATIONS
(METRIC TONS PER YEAR)

Reduction Source	CO_2e Emissions Reductions
Construction Equipment Efficiencies from Engine Modernization	-1
State-Led GHG Reducing Regulations	
AB 1493 (Pavley) and Low Carbon Fuel Standard[1]	-428
2011 Renewables Portfolio Standard[2]	-9
Total	**-438**

Notes:

[1] Emissions reductions from AB 1493 and the Low Carbon Fuel Standard are derived from the difference between 2005 automobile emissions factors and 2020 automobile emissions factors contained in CalEEMod version 2013.2.2.

[2] Emissions reductions from the RPS are derived from the difference between PG&E's BAU (2005) CO_2 emission intensity factor of 489 pounds of CO_2 per megawatt of energy generated and PG&E's most current (2012) CO_2 emission intensity factor of 445 pounds of CO_2 per megawatt of energy generated (PG&E 2014).

*Data output is included as **Appendix 3.4.***

State-led GHG reduction measures, such as Pavley, the Low Carbon Fuel Standard, and the RPS, would reduce GHG emissions by 20.2 percent compared with BAU, which is beyond the 16 percent reduction threshold. **Table 3.4-6** provides a summary of GHG reductions attributable to state regulations determining the 16 percent reduction needed to achieve compliance with AB 32.

TABLE 3.4-6
SUMMARY OF WESTSIDE ANNEXATION AREA GHG REDUCTIONS
(METRIC TONS PER YEAR)

Emissions Reduction Summary	CO_2 Emissions
Total Business-as-Usual (BAU) Emissions	**2,168**
State-Led Regulatory Reduction	-437
Construction Equipment Efficiencies from Engine Modernization	-1
Project Emissions After Reductions	**1,730**
Percentage Reduction from Business as Usual	20.2
Percentage Reduction Threshold for Less than Significant Determination	16.0

The GHG emissions from the development potential of the Westside Annexation Area are projected to result in 1,730 metric tons of CO_2e per year (**Table 3.4-6**). As projected, emissions would be reduced by 20.2 percent from BAU, which is greater than the 16 percent threshold, so the Westside Annexation Area development potential is considered consistent with the State of California's ability to meet its GHG reduction goals. GHG-related impacts resulting from the development potential of the Westside Annexation Area are **less than cumulatively considerable**.

Pilot Flying J Project

As with the Westside Annexation Area, for the purposes of evaluating potential GHG-related impacts for the Pilot Flying J project proposal, it is compared to the achievement of at least a 16 percent reduction in GHG emissions as compared to BAU. As shown in **Table 3.4-7**, the Pilot Flying J project could produce 5,493 metric tons of CO_2e annually under BAU conditions, primarily from motor vehicles. For purposes of this assessment, the total emissions of 5,493 metric tons of CO_2e per year are considered the BAU figure.

TABLE 3.4-7
ESTIMATED PILOT FLYING J GHG EMISSIONS UNDER BAU OPERATIONS
(METRIC TONS PER YEAR)

Emissions Source	CO_2e
Construction Amortized over 30 Years	10
Area Source (landscaping, hearth)	0
Energy	140
Mobile	5,298
Waste	39
Water	6
Total	**5,493**

*Source: CalEEMod version 2013.2.2. See **Appendix 3.4** for emission model outputs.*

Notes: BAU emissions projections account for development-generated emissions without any greenhouse gas reduction measures; i.e., emissions presented are not adjusted for future improved CAFÉ standards (Pavley I) and Low Carbon Fuel Standards, or the 2011 Renewables Portfolio Standard. The Pacific Gas & Electric year 2005 emissions factor of 489 pounds of CO_2 per megawatt of energy generated (PG&E 2014) was used to account for energy-related BAU greenhouse gas emissions.

As previously stated, several State-led GHG emissions–reducing regulations have recently taken effect, and changes to regulations will continue to take effect in the near future that will substantially reduce GHG emissions. For instance, the anticipated reduction associated with the Pavley Standard and the LCFS represent 1,341 fewer metric tons per year of GHGs attributed to the proposed travel center (see **Table 3.4-8**). PG&E, the electricity provider for Glenn County, is subject to California's Renewables Portfolio Standard, as described above. Largely due to the Renewables Portfolio Standard, PG&E's reduction of its CO_2 emission intensity factor would result in 8 fewer metric tons per year of GHGs as shown in **Table 3.4-8**.

TABLE 3.4-8
GHG REDUCTIONS FOR THE PILOT FLYING J TRAVEL CENTER FROM APPLICATION OF RECENT REGULATIONS
(METRIC TONS PER YEAR)

Reduction Source	CO_2e Emissions Reductions
Construction Equipment Efficiencies from Engine Modernization	-1
State-Led GHG Reducing Regulations	
AB 1493 (Pavley) and Low Carbon Fuel Standard[1]	-1,341
2011 Renewables Portfolio Standard[2]	-8
Total	**-1,350**

Notes:

[1] Emissions reductions from AB 1493 and the Low Carbon Fuel Standard are derived from the difference between 2005 automobile emissions factors and 2020 automobile emissions factors contained in CalEEMod version 2013.2.2.

[2] Emissions reductions from the RPS are derived from the difference between PG&E's BAU (2005) CO_2 emission intensity factor of 489 pounds of CO_2 per megawatt of energy generated and PG&E's most current (2012) CO_2 emission intensity factor of 445 pounds of CO_2 per megawatt of energy generated (PG&E 2014).

*Data output is included as **Appendix 3.4.***

State-led GHG reduction measures, such as Pavley, the LCFS, and the RPS, would reduce GHG emissions by 24.5 percent compared with business as usual, which is beyond the 16 percent reduction threshold. **Table 3.4-9** provides a summary of GHG reductions attributable to state regulations determining the 16 percent reduction needed to achieve compliance with AB 32.

TABLE 3.4-9
SUMMARY OF PILOT FLYING J TRAVEL CENTER GHG REDUCTIONS
(METRIC TONS PER YEAR)

Emissions Reduction Summary	CO_2 Emissions
Total Business-as-Usual (BAU) Emissions	**5,493**
State-Led Regulatory Reduction	-1,349
Construction Equipment Efficiencies from Engine Modernization	-1
Project Emissions After Reductions	**4,143**
Percentage Reduction from Business as Usual	24.5
Percentage Reduction Threshold for Less than Significant Determination	16.0

The GHG emissions from the Pilot Flying J Travel Center are projected to result in 4,143 metric tons of CO_2e per year (**Table 3.4-9**). As projected, BAU emissions would be reduced by 24.5 percent from BAU, which is greater than the 16 percent threshold, so the Pilot Flying J Travel Center is considered consistent with the State of California's ability to meet its GHG reduction goals. GHG-related impacts resulting from the Pilot Flying J Travel Center are **less than cumulatively considerable**.

Mitigation Measures

None required.

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3.5 Hazards and Hazardous Materials

This section describes the existing hazards and hazardous materials setting and potential effects from project implementation on the site and in the surrounding area. Descriptions and analysis in this section are based on information contained in the City of Orland General Plan (2010a) and provided by the California Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB).

3.5.1 EXISTING SETTING

HAZARDOUS MATERIALS DEFINED

Under Title 22 of the California Code of Regulations (CCR), the term hazardous substance refers to both hazardous materials and hazardous wastes, both of which are classified according to four properties: toxicity, ignitability, corrosiveness, and reactivity (CCR Title 22, Chapter 11, Article 3). A hazardous material is defined as a substance or combination of substances that may cause or significantly contribute to an increase in serious, irreversible, or incapacitating illness, or may pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Public health is potentially at risk whenever hazardous materials are or will be used. It is necessary to differentiate between the "hazard" of these materials and the acceptability of the "risk" they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to health and public safety is determined by the probability of exposure, in addition to the inherent toxicity of a material.

Factors that can influence the health effects when human beings are exposed to hazardous materials include the dose the person is exposed to, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body), and the individual's unique biological susceptibility.

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly (CCR Title 22, Chapter 11, Article 2, Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific CCR Title 22 criteria. While hazardous substances are regulated by multiple agencies, as described in the Regulatory Setting subsection below, cleanup requirements of hazardous wastes are determined on a case-by-case basis according to the agency with lead jurisdiction over the project.

EXISTING SITE CONDITIONS

Site Reconnaissance

A visual site reconnaissance was conducted for the City of Orland on October 1, 2014. The reconnaissance included observations of surface conditions at the project area. Additionally, the reconnaissance included site observations for the presence or absence of hazardous substances/petroleum products; generation, treatment, storage, or disposal of hazardous, regulated, or medical wastes; electrical equipment that utilizes oils which potentially contain polychlorinated biphenyls (PCBs); and storage tanks (above or below the ground).

Existing Project Area Conditions

As stated in Section 2.0, Project Description, the proposed project includes two components: (1) the annexation by the City of Orland of a total of six parcels and roadways, and (2) the development of a proposed Pilot Flying J Travel Center. The total area of annexation is 19.63 acres. However, only a 7.5-acre portion of one of the six parcels has specific development proposed. Therefore, while the 7.5-acre Pilot Flying J Travel Center site has specific development proposed, the remaining parcels, totally 12.13 acres, do not. The 7.5-acre Pilot Flying J Travel Center site consists of disturbed, undeveloped land located near Interstate 5 (I-5) adjacent to the Orland city limits in Glenn County. The other 12.13 acres, known as the Westside Annexation Area, is composed of five parcels developed with a gas station, three single-family homes, the Eagles Hall, and agricultural uses.

A review of historic aerial photographs of the Westside Annexation Area and the Pilot Flying J Travel Center site was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the site. Additionally, state and federal regulatory lists containing information regarding hazardous materials on or within a 1-mile radius of the project area were reviewed. Aerial photographs for the Westside Annexation Area show that the land uses in 1998 (three single-family homes, Eagles Hall, and agricultural uses) are the same as they today except for the gas station, which does not appear until the 2003 photograph. The aerial photographs also show that the Pilot Flying J site has been vacant undeveloped land since 1998.

The adjacent properties were in agricultural use at least from 1998 through 2013. While no structures indicative of agricultural chemical (i.e., pesticides, herbicides, and fertilizes) storage or mixing areas were noted in the aerial photographs, typically crops are maintained with chemicals supplied as a normal agricultural process. While no surficial evidence of misuse or misapplication of residual materials from agricultural chemicals was observed during the site reconnaissance, some such chemicals degrade slowly and/or have very low solubility and may still be present in low concentrations in the subsurface soils. As with any agricultural land, the possibility exists that pesticides, herbicides, and/or fertilizers have been applied which may have impacted the project area.

HAZARDOUS MATERIALS RECORD REVIEW

According to the EnviroStor and GeoTracker hazardous materials databases, none of the parcels in the Westside Annexation Area or the Pilot Flying J Travel Center site were identified as known hazardous materials sites or hazardous materials spill sites. The only open active hazardous release site is the Orland Cleaners just under one mile to the east. The Orland Cleaners is the apparent source of a groundwater plume that extends approximately 2.5 miles from the source in a southeast direction. This site is currently undergoing long-term monitoring by the California Department of Toxic Substances Control for the release of tetrachloroethylene, which impacted groundwater (DTSC 2014).

OTHER HAZARDS

Airport Operations

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoffs and landings. Other airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport.

The closest public use airport to the project area is Haigh Field, located approximately 3.5 miles to the southeast. Neither the Westside Annexation Area nor the Pilot Flying J site are located within the airport's safety areas as shown on Map 2 of the Comprehensive Airport Land Use Plan for the Orland Haigh Field Airport (GCALUC 1991, p. 10).

Wildland Fire Hazards

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and causing destruction to life and property. Wildfires can occur in undeveloped areas and spread to urban areas where structures and other human development are more concentrated. According to the California Department of Forestry and Fire Protection (Cal Fire) (2007), the project area is not located in a Fire Hazard Severity Zone.

SPECIFIC POTENTIAL HAZARDOUS MATERIALS

Asbestos

Asbestos is a general name for a group of naturally occurring minerals composed of small fibers. Most of these minerals are ultramafic, which contain 90 percent or more of the dark-colored iron-magnesium-silicate minerals olivine, augite, hypersthene, and (less commonly) hornblende. Another asbestos mineral is serpentine, found in the foothill regions of California. Based on information provided by the California Geological Survey (2011), it is unlikely that any naturally occurring asbestos minerals are located in the general Orland area.

Asbestos has been commonly used in many building materials, which may include but are not limited to floor coverings, drywall joint compounds, acoustic-ceiling tiles, piping insulation, electrical insulation, and fireproofing materials. Structures constructed or remodeled between 1930 and 1981 have the potential to contain building materials with asbestos. Various diseases have been associated with exposure to asbestos fibers, and the extensive use of asbestos in building materials has raised some concern about exposure in non-industrial settings. Health hazards associated with asbestos include increased risks of cancer and respiratory illnesses and diseases.

The presence of asbestos in a building does not mean that the health of building occupants is endangered. As long as asbestos-containing materials remain in good condition and are not disturbed or damaged, exposure is unlikely. However, damaged, deteriorated, or disturbed asbestos-containing materials can lead to fiber release and exposure. Unauthorized removal or disturbance of asbestos materials also could result in adverse health effects. A number of buildings and structures in the Westside Annexation Area could have been constructed prior to 1981. The potential safety hazards resulting from asbestos are greatest during demolition activities, but rehabilitation of older buildings also poses a potential hazard.

Lead-Based Materials

Lead is a highly toxic metal used for many years in products found in and around homes. Lead may cause a range of adverse health effects, from behavioral problems and learning disabilities to seizures and death. Children 6 years old and under are most at risk. Research suggests that the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated residential soil. Exposure to lead from older vintage paint is possible when the paint is in poor condition or during paint removal. In construction settings, workers can be exposed to airborne lead during renovation, maintenance, or removal work.

Lead-based paints were phased out of production in the early 1970s. Some of the buildings and structures in the Westside Annexation Area may have been constructed prior to the ban on lead-based paints. Therefore, it is possible that lead-based paints and materials are present in some structures. Proper handling and disposal of lead-based materials significantly reduces potential risks to human health and to the environment.

Electrical Facilities and Electromagnetic Fields

Electromagnetic fields (EMF) are invisible lines of force surrounding any electrical wire or device. They consist of two components—the electric field, which is the result of voltage, and the magnetic field, which is the result of current flow. Ordinary everyday use of electricity produces magnetic and electric fields. These 60 Hertz fields (fields that go back and forth 60 times a second) are associated with electrical appliances, power lines, and wiring in buildings. EMF health and safety issues from power lines are preempted by the Public Utilities Commission and therefore are typically not addressed in general plans. Although a point of concern, the evidence that electromagnetic fields from high voltage power lines can be hazardous to human health is not quantifiable and remains unresolved. Federal agencies working on establishing limits and health standards related to EMF include the National Institute for Occupational Safety and Health, US Environmental Protection Agency, Federal Communications Commission, Occupational Safety and Health Administration, National Telecommunications and Information Administration, and National Institutes of Health.

PCB Transformers

Polychlorinated biphenyls (PCBs) are a group of organic chemicals that can be odorless or mildly aromatic solids or oily liquids. They were formerly used as hydraulic fluids, lubricants, and fire retardants among other uses, as well as in heat transfer systems. In 1978, the US Environmental Protection Agency (EPA) banned the manufacture of PCBs and regulated their use and disposal. PCBs have been identified as potential cancer-causing agents and have been associated with other adverse health effects.

Despite the ban, certain sources of PCBs still exist. These include fluorescent light ballasts and electric transformers. Both of these potential PCB-containing sources potentially exist in the proposed Westside Annexation Area and the Pilot Flying J site, particularly in older structures or on older power poles. The Pacific Gas and Electric Company (PG&E) provides electric service to the area and is responsible for the operation, maintenance, and repair of transformers and electrical facilities.

Residual Agricultural Chemicals

Residual chemicals associated with current and past agricultural activities may be present at differing levels in the Westside Annexation Area and the Pilot Flying J site. Irrigated pasture, dry-farmed crops, and natural grasses typically require little to no application of environmentally persistent pesticides. Although irrigated row crops may have been subject to applications of restricted agricultural chemicals, restricted compounds are not necessarily persistent compounds. An example of a restricted but not persistent group of agricultural chemicals would be the triazine herbicides, which are often applied to corn crops. Over-the-counter insecticides and herbicides may have been used in the area; however, these chemicals generally do not persist in soils for greater than one year from application. Orchards and orchard-cultivated soils may have been contaminated through repeated application of chemicals to fruit or nut trees. Specifically, lead-arsenates and organochlorine pesticides, a "family" of compounds that includes the banned DDT, may have been applied to the orchards.

3.5.2 REGULATORY FRAMEWORK

Federal, state, and local regulatory agencies that oversee hazardous materials handling and a summary of significant hazardous waste management, including the statutes and regulations these agencies administer, are described below.

FEDERAL

Federal agencies that regulate hazardous substances include the EPA, the Occupational Safety and Health Administration (OSHA), the US Department of Transportation (DOT), and the National Institute of Health. The following federal laws and guidelines govern hazardous materials.

- Federal Water Pollution Control Act
- Clean Air Act
- Occupational Safety and Health Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Resource Conservation and Recovery Act (RCRA)
- Safe Drinking Water Act
- Toxic Substances Control Act

Worker Safety

The Hazard Communication Standard (Title 29, Part 1910 of the Code of Federal Regulations [CFR]) requires that workers be informed of the hazards associated with the materials they handle. Workers must be trained in safe handling of hazardous materials, use of emergency response equipment, and the building emergency response plan and procedures. Containers must be appropriately labeled, and Material Safety Data Sheets must also be available in the workplace.

OSHA's Bloodborne Pathogens Standard is intended to protect workers, including lifeguards at aquatics facilities and water bodies, from exposure to blood and bodily fluids, which is the primary means of transmittal for the most harmful infectious agents known.

Hazardous Materials Transportation

The US Department of Transportation developed regulations pertaining to the transport of hazardous materials by all modes of transportation. DOT regulations specify packaging requirements for different types of materials. In addition to the DOT, the US Postal Service, the EPA, the California Highway Patrol, the California Department of Transportation (Caltrans), and the DTSC implement and enforce state and federal laws regarding hazardous materials transportation. The US Postal Service has regulations for the transport of hazardous materials by mail.

Transporters of hazardous materials are subject to both DOT and EPA enforcement of the regulations. Consequently, the DOT and the EPA coordinate their efforts, especially at the regional level, to obtain compliance with both RCRA and Hazardous Materials Transportation

Act (HMTA) regulations. Under the authority of the Resource Conservation and Recovery Act, the EPA regulates the transportation of hazardous materials. The EPA coordinates its transportation ordinances with the requirements of the HMTA and any statutes promulgated by the US Department of Transportation pursuant to the HMTA. The EPA set forth these standards applicable to transporters of hazardous materials in 40 CFR 263. These EPA standards incorporate and require compliance with the DOT provisions on labeling, marking, placarding, using proper containers, and reporting discharges. The EPA's adoption of these DOT standards ensures consistency among the requirements and avoids establishing conflicting rules. The DOT's regulations are documented in 49 CFR 171-180 and implemented by the Research and Special Programs Administration within the DOT. In summary, the EPA is directed by the Resource Conservation and Recovery Act to establish certain standards for transporters of hazardous materials and to coordinate regulatory activities with the DOT.

EPA regulations require a transporter to:

- Comply with the manifest system (a system that ensures the integrity of the shipment from the point of origin to its destination).
- Maintain the appropriate records (signed manifests) for three years.
- Take immediate action to protect human health and the environment (e.g., notify local authorities or initiate interim measures) in the case of a discharge.
- Notify the National Response Center and submit a report to the DOT Office of Hazardous Materials Regulations in the event of a hazardous waste discharge.
- Clean up any discharges to the environment and take any actions required by the appropriate government officials for mitigating the discharge effects on human health and environment.

Transporters of hazardous materials must also adhere to all of the Federal Motor Carrier Safety Regulations that the DOT has adopted under the Motor Carrier Safety Act of 1984. This act specifies more requisites that apply to the transport vehicle and the driver. Among them are concise specifications for vehicle parts and accessories, such as lighting devices, brakes, glazing and windows, fuel systems, tires, and horns. Additional requirements concerning inspection, repair, and maintenance are enumerated. Special driving and parking rules that relate to hazardous materials transportation are also indicated. Standards for drivers identify minimum qualifications, including physical qualifications, background and character profiles, and pertinent examinations. Also included among these rules are testing requirements for alcohol and controlled substances such as marijuana, cocaine, opiates, amphetamines, and phencyclidine. Other regulations pertaining to drivers include standards for the driving of vehicles, stopping, fueling, the use of lamps, the reporting of accidents, and the monitoring of a driver's hours of service.

STATE

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within CalEPA, the DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management and transport of hazardous materials under the authority of the Hazardous Waste Control Law.

Hazardous Materials Transport

The transportation of hazardous materials, such as gasoline and diesel fuel, in California is subject to various federal, state, and local regulations. It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery or the loading of such materials (California Vehicle Code Sections 31602(b) and 32104(a)). The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is restricted to these routes except in cases where additional travel is required from the route to deliver or receive hazardous materials to and from users. The CHP (1997, pp. 2–4) has identified Interstate 5, located adjacent to the project area to the east, as a route that may be used for the transportation of hazardous materials. Information on CHP requirements and regulatory authority is provided in the Regulatory Framework subsection below.

Hazardous Materials Management

CalEPA has established regulations governing the use of hazardous materials in the state. Within CalEPA, the Department of Toxic Substances Control has primary hazardous materials regulatory responsibility, but can delegate enforcement responsibilities to local jurisdictions that enter into agreements with the DTSC, for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law. State regulations applicable to hazardous materials are contained primarily in Title 22 of the California Code of Regulations. CCR Title 26 is a compilation of those chapters or titles of the CCR that are applicable to hazardous materials management. California Division of Occupational Safety and Health (Cal/OSHA) standards are presented in CCR Title 8; these are more stringent than federal OSHA regulations and address workplace regulations involving the use, storage, and disposal of hazardous materials.

CalEPA adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The six elements of the Unified Program are hazardous waste generation and on-site treatment, underground storage tanks, aboveground storage tanks, hazardous material release response plans and inventories, risk management and prevention programs, and California Fire Code hazardous materials management plans and inventories. The program is implemented at the local level by a local agency, referred to as the Certified Unified Program Agency (CUPA), which is responsible for consolidating the administration of the six program elements within its jurisdiction. The Glenn County Air Pollution Control District (GCAPCD) is the CUPA for all of Glenn County, including the City of Orland.

State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. California's Hazardous Materials Release Response Plans and Inventory Law, also called the Business Plan Act, is intended to minimize the potential for accidents involving hazardous materials and facilitate an appropriate response to possible hazardous materials emergencies. The law requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies, to illustrate on a diagram where the materials are stored on-site, to prepare an emergency response plan, and to train employees to use the materials safely.

Worker Safety

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. Cal/OSHA is responsible for developing and enforcing workplace safety standards and ensuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA obligates many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. As at the federal level, the Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle. This is achieved through actions such as requiring manufacturers to appropriately label containers, make Material Safety Data Sheets available in the workplace, and require employers to properly train workers.

California Fire Code

The California Fire Code contains regulations relating to construction and maintenance of buildings and the use of premises. The code includes specifications for fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and premises. Storage of corrosive materials and liquid and solid oxidizers, must be in compliance with California Fire Code Sections 5404 and 6304, which include provisions for indoor storage, detached storage, liquid-tight floors, and smoke detection, among others.

California Accidental Release Prevention Program

The California Accidental Release Prevention Program (CCR Title 19, Division 2, Chapter 4.5) covers certain businesses that store or handle more than a certain volume of specific regulated substances at their facilities. The list of regulated substances is found in Article 8, Section 2770.5, of the program regulations.

Department of Toxic Substances Control

Each year, Californians generate two million tons of hazardous waste. One hundred thousand privately and publicly owned facilities generate one or more of the 800-plus wastes considered hazardous under California law. Properly handling these wastes avoids threats to public health and degradation of the environment.

The Department of Toxic Substances Control regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in the state. Approximately 1,000 scientists, engineers, and specialized support staff make sure that companies and individuals handle, transport, store, treat, dispose of, and clean up hazardous

wastes appropriately. Through these measures, the DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment.

California Highway Patrol

A valid Hazardous Materials Transportation License, issued by the CHP, is required by the laws and regulations of California Vehicle Code Section 3200.5 for transportation of either hazardous materials shipments for which the display of placards is required by state regulations or hazardous materials shipments of more than 500 pounds, which would require placards if shipping in greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the CHP under the authority of the California Vehicle Code. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (Title 14, California Code of Regulations, Chapter 6, Article 1, Sections 1150–1152.10). Inhalation hazards are covered under similarly restrictive rules and regulations (Title 13, California Code of Regulations, Chapter 6, Article 2.5, Sections 1157–1157.8). Radioactive materials are strictly restricted to specific safe routes for transportation of such materials.

Emergency Response Plan

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to hazardous materials incidents is one part of this plan. The plan is managed by the State Office of Emergency Services, which coordinates the responses of other agencies including CalEPA, CHP, California Department of Fish and Wildlife, Regional Water Quality Control Board, and local law enforcement and fire protection agencies.

LOCAL

Glenn County Air Pollution Control District (Glenn County Certified Unified Program Agency)

Senate Bill 1082 (1993) established the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. The Certified Unified Program Agency (CUPA) program is designed to consolidate, coordinate, and consistently administer permits, inspection activities, and enforcement activities throughout the county. The Glenn County Air Pollution Control District is the CUPA for all of Glenn County. As a CUPA, the district is responsible for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, aboveground storage tanks, and stationary sources handling regulated substances.

City of Orland General Plan

The Orland General Plan Safety Element includes policies and action programs intended to minimize risk to the public and the environment associated with hazardous materials. Safety Hazard Program 4.7.A.2 requires all permits for new projects or major additions to existing uses located on sites identified by the State as having or containing likely hazardous substances or materials to be referred to the Glenn County Health Department to ensure compliance with applicable state and local regulations. Program 4.7A.3 requires that any use which uses or manufactures hazardous substances within one-quarter mile of any existing or proposed school only be permitted when authorized by a conditional use permit, with ample assurances that the students will not be placed in a hazardous environment.

City of Orland Municipal Code

Orland Municipal Code Section 15.32.030 requires that any gasoline or other petroleum product be stored in a sound and non-leaking container with housing that is adequate to contain any spills. Per the Municipal Code, the storage must meet the requirements of the California Fire Code. The burning of garbage is prohibited per Orland Municipal Code Section 8.08.010.

3.5.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Based on the California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance, the proposed project would create a significant impact related to hazards and hazardous materials if it would:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

5) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.

6) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.

7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

8) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

METHODOLOGY

The following impact analysis is based primarily on a review of existing applicable regulations, the Orland Municipal Code and General Plan, and other relevant materials, as appropriate. In addition, this analysis was supplemented with an updated search of all federal, state, regional, and local government hazardous materials databases.

PROJECT IMPACTS AND MITIGATION MEASURES

Routine Transport, Use, or Disposal of Hazardous Materials (Standard of Significance 1)

Impact 3.5.1 Implementation of the proposed project would involve limited transport, use, storage, and disposal of hazardous materials during construction and operation. Compliance with existing regulations would reduce this impact to a level that is **less than significant**.

Westside Annexation Area

Although all of the parcels in the Westside Annexation Area are currently developed with single-family homes, Eagles Hall, a gas station, and agricultural uses, the City's annexation of the Westside Annexation Area would allow redevelopment of the area with commercial, as shown in **Table 2.0-1** of this EIR (no development projects are proposed for the Westside Annexation Area at this time). These new uses may result in uses that routinely transport, use, or disposal of hazardous materials. While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to reduce risk to acceptable levels. Adherence to existing regulations, described in detail below, would ensure compliance with safety standards related to the use and storage of hazardous materials and with the safety procedures mandated by applicable federal, state, and local laws and regulations. Compliance with these regulations would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with the development potential within the Westside Annexation Area would be **less than significant**.

Pilot Flying J Project

Construction would involve the use of various products that contain materials classified as hazardous (e.g., solvents, adhesives and cements, certain paints, cleaning agents, and degreasers). Travel Center construction would be required to comply with applicable building, health, fire, and safety codes. Hazardous materials would be used in varying amounts during construction of the Travel Center. Construction and maintenance activities would use hazardous materials such as fuels (gasoline and diesel), oils and lubricants, paints and paint thinners, glues, cleaners (which could include solvents and corrosives in addition to soaps and detergents), and possibly pesticides and herbicides.

CCR Title 8 addresses workplace regulations involving the use, storage, and disposal of hazardous materials, and specific applications for construction workers. CCR Titles 22 and 26 set forth environmental health standards for hazardous materials management. California Health and Safety Code Chapter 6.95 sets forth enabling legislation for the application of CCR Titles 8, 22, and 26. Safety precautions for the prevention of fire hazards associated with the use and storage of hazardous materials are addressed in the California Fire Code. Compliance with applicable federal, state, and local regulations, including but not limited to CCR Titles 8 and 22, the California Fire Code, and California Health and Safety Code Chapter 6.95, would ensure that construction of the proposed Travel Center would not create a significant hazard to the public or to the environment through the routine transport, use, or disposal of hazardous materials.

Development of the proposed Travel Center would result in the operation of commercial/retail uses. The retail gasoline sales and diesel sales involve the transportation and storage of substantial amounts of hazardous materials. The proper use and storage of any such hazardous material or substances should limit exposure and the potential for explosion or spills. Businesses

that handle hazardous materials are required by law to provide an immediate verbal report of any release or threatened release of hazardous materials, if there is a reasonable belief that the release or threatened release poses a significant present or potential hazard to human health, safety, property, or the environment.

Any business in Glenn County that uses, generates, processes, produces, treats, stores, emits, or discharges a hazardous material in quantities at or exceeding 55 gallons, 500 pounds, or 200 cubic feet (compressed gas) at any one time in the course of a year is required to submit a Hazardous Materials Business Plan to the Glenn County Air Pollution Control District. As part of the business plan, an Emergency Response/Contingency Plan is also required. These plans identify the location of all hazardous and toxic materials and provide a plan of action in the event of a spill or leak of hazardous materials. The applicant is also required to comply with applicable provisions of Title 49 Code of Federal Regulations Parts 100–185 and all amendments through December 9, 2005 (Hazardous Materials Regulations). Compliance with existing regulations would assist in offsetting impacts associated with routine transport, use, and disposal of hazardous materials.

Hazardous materials regulations, which are codified in CCR Titles 8, 22, and 26, and their enabling legislation set forth in California Health and Safety Code Chapter 6.95, were established at the state level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the State (e.g., Cal/OSHA in the workplace or the DTSC for hazardous waste) and/or local jurisdictions.

While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to reduce risk to acceptable levels. Adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous materials and with the safety procedures mandated by applicable federal, state, and local laws and regulations. Compliance with these regulations would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with implementation of the proposed Travel Center would be **less than significant**.

Mitigation Measures

None required.

Release of Hazardous Materials (Standard of Significance 2)

Impact 3.5.2 Implementation of the proposed project would not result in the accidental release of hazardous materials into the environment. Therefore, impacts are considered **less than significant**.

One of the means through which human exposure to hazardous substance could occur is accidental release. Incidents that result in an accidental release of hazardous substance into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. If not cleaned up immediately and completely, the hazardous substances can migrate into the soil or enter a local stream or channel, causing contamination of soil and water. Human exposure of contaminated soil or water can have potential health effects on a variety of factors, including the nature of the contaminant and the degree of exposure.

Westside Annexation Area

Although all of the parcels in the Westside Annexation Area are currently developed with single-family homes, Eagles Hall, a gas station, and agricultural uses, the City's annexation of the Westside Annexation Area would allow for development of the area with commercial uses. This potential development may result in uses that have the potential for a release of a hazardous material. As described under Impact 3.5.1, construction and operation of the development potential within the Westside Annexation Area would very likely involve the transport, use, storage, and disposal of typical hazardous materials. However, all handling of hazardous materials within the Westside Annexation Area would be required to comply with applicable local, state, and federal regulations related to hazardous materials, as well as with the requirements of a Hazardous Materials Business Plan, including the mandated submittal of a chemical inventory, the mandated emergency response plan, and regular facility inspections, in the case that future land uses employ the use of hazardous material in quantities at or exceeding 55 gallons, 500 pounds, or 200 cubic feet (compressed gas) at any one time in the course of a year. Compliance with regulations would ensure that risks resulting from the accidental release of hazardous materials or hazardous wastes associated with the development potential within the Westside Annexation Area would be **less than significant**.

Pilot Flying J Project

Construction

Construction activities associated with the proposed Travel Center could release hazardous materials into the environment through reasonably foreseeable upset and accident conditions. There is a possibility of accidental release of hazardous substances such as petroleum-based fuels or hydraulic fluid used for construction equipment. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during construction. The construction contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law.

Storage and Handling

The proposed Pilot Flying J project would result in the storage of gasoline and diesel fuels. Fuel storage on the site would include the following:

- Two aboveground storage tank farms, which include:
  - Six 12,000-gallon diesel fuel aboveground storage tanks
  - Two 12,000-gallon B100 fuel aboveground storage tanks
- One 12,000-gallon diesel exhaust fluid underground tank
- One 4,000-gallon oil water separator underground tank
- One 25,000-gallon gasoline fuel underground storage tank
- One 1,000-gallon aboveground propane storage tank

Typical incidents that could result in accidental release of hazardous materials involve leaking storage tanks, spills during transport, inappropriate storage, inappropriate use, and/or natural disasters. If not remediated immediately and completely, these and other types of incidents could cause toxic fumes and contamination of soil, surface water, and groundwater. Depending on the nature and extent of the contamination, groundwater supplies could become unsuitable for use as a domestic water source. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

Hazardous materials must be stored in designated areas designed to prevent accidental release to the environment. California Building Code requirements prescribe safe accommodations for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards.

As discussed previously, hazardous materials regulations, which are codified in Titles 8, 22, and 26 of the California Code of Regulations, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code, were established at the state level to ensure compliance with federal regulations and to reduce the risk to human health and the environment from the routine use of hazardous substances. Protection against accidental spills and releases provided by this legislation includes physical and mechanical controls of fueling operations including automatic shutoff valves; requirements that fueling operations are contained on impervious surface areas; oil/water separators or physical barriers in catch basins or storm drains; vapor emissions controls; leak detection systems; and regular testing and inspection of fueling stations.

Chemicals and wastes stored in aboveground or underground storage tanks would be required to follow guidelines mandated by federal and state agencies. Aboveground tanks storing hazardous chemicals would have secondary containment to collect fluids that are accidentally released. Underground storage tanks and connecting piping would be double-walled and would have monitoring devices with alarms installed to constantly monitor for unauthorized releases in accordance with federal and state standards. Applicable existing standards include the California Environmental Protection Agency's Aboveground Petroleum Storage Act, Cal/OSHA operational requirements, California Health and Safety Code Section 25270 regarding aboveground storage tanks and Section 25290 regarding underground storage tanks, and Glenn County Fire Department regulations regarding the installation and operation of aboveground and underground tanks. Compliance with all applicable federal and state laws related to the storage of hazardous materials would be required to maximize containment and provide for prompt and effective clean-up, if an accidental release occurs, thereby ensuring that a less than significant impact would occur.

Off-Site Transport

Transportation of hazardous materials can result in accidental spills, leaks, toxic releases, fire, or explosion. The potential exists for licensed vendors to transport hazardous materials to and from the Travel Center site. Accidental releases would most likely occur along transport routes leading to and from the site. The US Department of Transportation (DOT) Office of Hazardous Materials Safety prescribes strict regulations for the safe transportation of hazardous materials, as described in Title 49 of the Code of Federal Regulations and implemented by CCR Title 13. Appropriate documentation would be provided for all hazardous waste that is transported in connection with specific activities on the Pilot Flying J Travel Center site, as required by existing hazardous materials regulations.

As stated above, existing standards applying to the installation and operation of aboveground and underground storage tanks include the California Environmental Protection Agency's Aboveground Petroleum Storage Act, Cal/OSHA operational requirements, California Health and Safety Code Section 25270 and 25290, and fire department regulations.

The proposed Travel Center would be subject to compliance with all applicable federal, state, and local laws (including Title 49 of the Code of Federal Regulations) and regulations pertaining to the transport, use, disposal, handling, and storage of hazardous waste. Compliance with these regulations would reduce the likelihood and severity of accidents during transit, thereby ensuring that a less than significant impact would occur in this regard.

Compliance with the established regulatory framework would ensure that potential impacts are **less than significant** by requiring compliance with applicable laws and regulations that would reduce the risk of hazardous material release through the implementation of established safety practices, procedures, and reporting requirements.

Mitigation Measures

None required.

Exposure to Hazardous Materials (Standard of Significance 2)

Impact 3.5.3 Portions of the Westside Annexation Area are currently in agricultural use. The proposed Pilot Flying J Travel Center site may have been used for agricultural production during the past. Agricultural practices commonly use herbicides and pesticides that are toxic to humans, the residuals of which may still occur on or adjacent to the project area. This use may be hazardous. However, time and existing requirements reduce this impact to a **less than significant** level.

Westside Annexation Area

One parcel in the Westside Annexation Area is currently used for agricultural purposes. This property also contains a barn, which could be indicative of agricultural chemical storage or mixing areas. Typically crops are maintained with chemicals applied as a normal agricultural process. Some of these chemicals degrade slowly and/or have very low solubility and may still be present in low concentrations in the subsurface soils. As with any agricultural developed land, the possibility exist that pesticides, herbicides, and/or fertilizers have been applied, which may have impacted this parcel. However, as described in Section 2.0, Project Description, the development potential within the Westside Annexation Area includes 1.7 acres located at the northeast corner of County Road HH and County Road 13. Aerial photographs indicate that this acreage has not been used for this purpose since at least 1998. No structures indicative of agricultural chemical storage or mixing areas were noted in aerial photographs. This acreage has no existing indications of agricultural use. Because this acreage, directly adjacent to the Travel Center site, has not been used for agricultural purposes for at least 16 years, the potential for construction-instigated exposure to hazardous materials that may have been used during agricultural practices is remote.

The developable portion of the Westside Annexation Area is located adjacent to land used for agricultural purposes and therefore may be exposed to pesticide/herbicide drift. Furthermore, the Westside Annexation Area itself contains agricultural land. Agricultural chemical use in California is regulated by the California Department of Pesticide Regulation. The department's directive is to eliminate from use any pesticide that endangers the agricultural or nonagricultural

environment, is not beneficial for the purposes for which it is sold, or is misrepresented. To do this, state law requires the department to have an orderly program for the continuous evaluation of registered pesticides. The Glenn County Agricultural Department is responsible for the implementation of federal, state, and local regulatory programs, including those of the California Department of Pesticide Regulation, in Glenn County. These programs are designed to protect people and the environment and promote agriculture in the county. In order to decrease potential hazards related to pesticide/herbicide drift, the Agricultural Department requires that pesticides and herbicides determined to be potentially hazardous only be applied during calm, non-windy, days and thereby reduce the potential for drift. All agricultural-related chemicals are required to be registered for use in Glenn County and regulated as to how and when these chemicals can be used. Application of these regulations would reduce the potential for pesticide/herbicide drift.

This is a **less than significant** impact.

Pilot Flying J Project

The potential for hazardous materials related to agriculture can occur during construction, as grading activities may raise chemical-laden dust. The potential for hazardous materials related to agriculture can occur during project operation because of pesticide/herbicide drift. Because of its location, in the northern Sacramento Valley, the Pilot Flying J site may have been used for agricultural purposes in the past. However, aerial photographs indicate that the site has not been used for this purpose since at least 1998. No structures indicative of agricultural chemical storage or mixing areas were noted in aerial photographs. The site has no existing indications of agricultural use. Because the site has not been used for agricultural purposes for at least 16 years, during construction, the potential for exposure to hazardous materials that may have been used during agricultural practices is remote.

The Pilot Flying J site is located adjacent to land used for agricultural purposes and therefore may be exposed to pesticide/herbicide drift. Agricultural chemical use in California is regulated by the California Department of Pesticide Regulation. The department's directive is to eliminate from use any pesticide that endangers the agricultural or nonagricultural environment, is not beneficial for the purposes for which it is sold, or is misrepresented. To do this, state law requires the department to have an orderly program for the continuous evaluation of registered pesticides. The Glenn County Agricultural Department is responsible for the implementation of federal, state, and local regulatory programs, including those of the California Department of Pesticide Regulation, in Glenn County. These programs are designed to protect people and the environment and promote agriculture in the county. In order to decrease the potential hazards related to pesticide/herbicide drift, the Agricultural Department requires that pesticides and herbicides determined to be potentially hazardous only be applied during calm, non-windy, days and thereby reduce the potential for drift. All agricultural-related chemicals are required to be registered for use in Glenn County and regulated as to how and when these chemicals can be used. Application of these regulations would reduce the potential for pesticide/herbicide drift. Therefore, this is considered a **less than significant** impact.

Mitigation Measures

None required.

Hazardous Emissions or Substances Near a School Site (Standard of Significance 3)

Impact 3.5.5 The project area is not located within one-quarter mile of an existing or proposed school site. There is **no impact**.

Westside Annexation Area

The nearest public education facility to the Westside Annexation Area is Orland High School located at 101 Shasta Street, approximately 1 mile to the east. Therefore, there is no school site within one-quarter mile of the project. Additionally, if in the future a school was located near the Westside Annexation Area, General Plan Safety Hazard Program 4.7A.3 requires that any use which uses or manufactures hazardous substances within one-quarter mile of any existing or proposed school only be permitted when authorized by a conditional use permit, with ample assurances that the students will not be placed in a hazardous environment. As such, the Westside Annexation Area would have **no impact** in this area.

Pilot Flying J Project

The nearest public education facility to the Pilot Flying J site is Orland High School located at 101 Shasta Street, approximately 1 mile to the east. Therefore, there is no school site within one-quarter mile of the project. Furthermore, as discussed under Impact 3.5.2, implementation of the proposed Travel Center would not result in the release of hazardous emissions or substances. Therefore, the project would have **no impact** regarding hazardous emissions near a school.

Mitigation Measures

None required.

Located on a List of Hazardous Materials Site (Standard of Significance 4)

Impact 3.5.5 The project area has not been listed as a hazardous material release site. The project would have **no impact** in this area.

Westside Annexation Area

As discussed previously, according to the EnviroStor and GeoTracker databases, none of the parcels in the Westside Annexation Area were identified as known hazardous materials sites or hazardous materials spill sites. The only open active hazardous release site in the vicinity is the Orland Cleaners located just under one mile of the Westside Annexation Area at the nearest. Thus, **no impact** would occur in this regard.

Pilot Flying J Project

As discussed previously, according to the EnviroStor and GeoTracker databases, the Pilot Flying J site was not identified as known hazardous materials site or hazardous materials spill site. The only open active hazardous release site is the Orland Cleaners located just under one mile to the east. Thus, **no impact** would occur in this regard.

Mitigation Measures

None required.

Hazards Associated with Airport Land Use Plans or Airports (Standards of Significance 5 and 6)

Impact 3.5.6 The project area would not result in a safety hazard for people within an airport land use plan, nor would it result in a safety hazard in the vicinity of a private airstrip. **No impact** would occur.

Westside Annexation Area

The Westside Annexation Area is not located within an airport land use plan or within 2 miles of a public airport or private use airport. The closest airport, Haigh Field, is located approximately 3.5 miles southeast of the Westside Annexation Area. The Westside Annexation Area is not located in the airport's safety areas as shown on Map 2 of the Comprehensive Airport Land Use Plan for the Orland Haigh Field Airport (GCALUC 1991, p. 10). Thus, **no impact** would occur for this issue area.

Pilot Flying J Project

The Pilot Flying J site is not located within an airport land use plan or within 2 miles of a public airport or private use airport. The closest airport, Haigh Field, is located approximately 3.5 miles southeast of the Pilot Flying J site. The Pilot Flying J site is not located in the airport's safety areas as shown on Map 2 of the Comprehensive Airport Land Use Plan for the Orland Haigh Field Airport (GCALUC 1991, p. 10). Thus, **no impact** would occur in this regard.

Mitigation Measures

None required.

Located in the Vicinity of a Private Airstrip (Standard of Significance 6)

Impact 3.5.7 There are no private airports in the vicinity of the proposed project area. There would be **no impact**.

Westside Annexation Area

There are no private airports within the vicinity of the Westside Annexation Area. Thus, **no impact** would occur for this issue area.

Pilot Flying J Project

There are no private airports within the vicinity of the Pilot Flying J site. Thus, **no impact** would occur for this issue area.

Mitigation Measures

None required.

Interfere with Emergency Response or Evacuation Plan (Standard of Significance 7)

Impact 3.5.8 The proposed project would not substantially impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. This impact would be **less than significant**.

Standard evacuation routes have not been designated in Glenn County or Orland. However, the Glenn County Sheriff's Office, Office of Emergency Services, has an online link to an emergency preparedness web page stating that in the event of mandatory evacuation, residents will be advised of safe routes to follow, locations of shelters, and other actions that may need to be taken.

The Glenn County Sheriff's Office has several means of notifying the public of emergencies and possible evacuations, which include a prerecorded telephone message from the Sheriff's Department, local radio and television station announcements, and the Emergency Broadcast System. In the event of extreme cases and/or the inability to contact residents in another manner, the Sheriff's Department would go door to door.

According to the Orland General Plan EIR, it is likely that Caltrans facilities such as State Route 32 and Interstate 5 would be used to evacuate the community in an emergency. Major county roads such as Sixth Street (County Road 99W) and South Street are also suited to evacuation, depending on the location of the emergency (Orland 2010b, p. 4.6-28).

Westside Annexation Area

As stated previously, there are no proposals for development in the Westside Annexation Area at this time. The main thoroughfare in the Westside Annexation Area is Newville Road. It would most likely be used as the main evacuation route connecting to Interstate 5 for residents in the general area in an emergency. Neither the City nor the County has an adopted emergency response or evacuation plan at this time. Therefore, the development potential within the Westside Annexation Area could not interfere with any such plans. **No impact** would occur for this issue area.

Pilot Flying J Project

The main access to the Pilot Flying J Travel Center would be via Newville Road. While the City or County have not identified emergency evacuation routes, Newville Road would most likely be used as the main evacuation route connecting to Interstate 5 for residents in the general area in an emergency. Implementation of the proposed Travel Center would increase daily traffic on Newville Road, which may, in the event of an emergency, impede traffic flow. However, mitigation measures discussed in Section 3.8, Transportation and Circulation, of this EIR would remove traffic impediments and allow operation of Newville Road to City roadway level of service standards. Additionally, neither the City nor the County has an adopted emergency response or evacuation plan at this time. Therefore, it is impossible to interfere with any such plans.

Implementation of the proposed Travel Center and the potential development associated with it would not impair the City's ability to utilize its emergency evacuation routes. Circulation through the Travel Center site would be maintained, as much as feasible, and applicable emergency services would be notified of road closures. Therefore, impacts would be **less than significant**.

Mitigation Measures

None required.

Wildland Fire Hazards (Standard of Significance 8)

Impact 3.5.9 The project area is not designated by the California Department of Forestry and Fire Protection (Cal Fire) as a Fire Hazard Severity Zone and is not located in proximity to any wildlands. This impact would be **less than significant**.

Westside Annexation Area

As described in the Existing Setting subsection, the Westside Annexation Area is not in an area designated by Cal Fire (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Finally, the location of the Westside Annexation Area makes it readily accessible by emergency personnel and vehicles in the event of a wildland fire. For these reasons, this impact would be **less than significant**.

Pilot Flying J Project

As described in the Existing Setting subsection, the Pilot Flying J site is not in an area designated by Cal Fire (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Finally, the location of the site makes it readily accessible by emergency personnel and vehicles in the event of a wildland fire. For these reasons, this impact would be **less than significant**.

Mitigation Measures

None required.

3.5.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for hazards associated with the proposed project generally consists of existing and future uses in Orland and Glenn County in the vicinity of the proposed project. Cumulative impacts associated with hazardous materials and human health risks from increased development may include, but are not limited to, impacts on transportation, air quality, hydrology and water quality, and biological resources. The cumulative impacts associated with these potentially affected resources are analyzed in the applicable sections of this Draft EIR.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Risk of Exposure to Hazardous Materials

Impact 3.5.10 Implementation of the proposed project in addition to cumulative development associated with the proposed project may result in cumulative hazardous risk impacts. This is considered a **less than cumulatively considerable** impact.

Implementation of the proposed project would result in potential short-term impacts during construction activities associated with exposure to hazards such as potential contaminated soils. However, hazards and hazardous materials impacts associated with the project would be site-specific and would not contribute to cumulative hazardous impacts. Cumulative development in the region is not anticipated to result in significant hazards or hazardous materials impacts to the project area.

As described in this section, with compliance with hazardous materials regulations, the proposed project would not contribute to an increase in the potential for exposure to hazards associated with soil contamination or the potential risk of upset as a result of current or past land uses. The proposed project will not combine with any planned growth in the area to form a hazards impact greater or more significant than the project impact alone. Therefore, the cumulative hazards impacts are considered **less than cumulatively considerable**.

Mitigation Measures

None required.

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3.6 Land Use

This section discusses the General Plan land use designations and zoning for the project area. This section also identifies any potential conflicts with the surrounding land uses in the project area.

3.6.1 EXISTING SETTING

The Westside Annexation Area and the Pilot Flying J Travel Center are located in an area of mixed uses including commercial, residential, and agriculture. Existing uses in the Westside Annexation Area include single-family homes, a fraternity lodge, agriculture, vacant land, and a gas station. **Table 3.6-1** identifies the existing use for the six parcels of the Westside Annexation Area as well as the Pilot Flying J parcel. Currently, the Pilot Flying J site is vacant undeveloped land.

TABLE 3.6-1
AREA OF ANNEXATION EXISTING USES

APN	Acreage	Existing Use
045-140-003	0.44	Gas station/convenience store
045-140-010	0.40	Eagles Hall
045-140-011	0.50	Single-family home
045-140-012	0.59	Single-family home
045-170-003	8.50	Agriculture, single-family home
045-170-005	9.20	Vacant land
Total	19.63	

SURROUNDING USES

The project proposes the annexation of 19.63 acres just west of Interstate 5 and south of Newville Road (with the exception of 0.44 acre of land that extends north of Newville Road. As described in detail below, 7.5 acres of the proposed annexation consists of a specific development proposal of a Pilot Flying J Travel Center. The remaining 12.13 acres are to remain as currently existing and no development of this acreage has been proposed as a part of this project. These 12.13 acres are known as the Westside Annexation Area.

Land uses surrounding the proposed Westside Annexation Area and the Pilot Flying J Travel Center site include agriculture, commercial, and residential uses. Specifically, the Pilot Flying J Travel Center site is bound by Intestate 5 to the east; the Newville Road/Interstate 5 interchange to the north with the commercial uses of a gas station, fast-food and sit-down restaurants, and offices beyond; County Road 13 to the south with a single-family home, pastureland, and vacant land beyond; and County Road HH to the west with a hand-cultivated agricultural site and an occupied single-family dwelling beyond. The hand-cultivated agricultural site and single-family dwelling to the west are also within the Westside Annexation Area. Northwest of the Pilot Flying J site, across Newville Road, is a mobile home park. The Eagles Hall is also northwest of the Pilot Flying J site but is within the Westside Annexation Area. To the west of the Westside Annexation Area is an active orchard surrounding a rural single-family residential dwelling and a developed single-family dwelling set back from, yet fronting, Newville Road.

Those areas north of the Westside Annexation Area and the Pilot Flying J site are either in the Orland city limits or under Glenn County jurisdiction. For those areas in the Orland city limits, the General Plan land use designations are Commercial for the commercial areas and High Density Residential for the mobile home park (see **Figure 3.6-1**). For those areas to the north in Glenn County, the General Plan land use designation is Suburban Residential (see **Figure 3.6-2**). The lands south of the Westside Annexation Area and Pilot Flying J site are in the unincorporated area of Glenn County and have a Glenn County General Plan land use designation of either Service Commercial or Suburban Residential. The lands west of the Westside Annexation Area are in Glenn County and have the Glenn County land use designation of either Service Commercial or Suburban Residential. The area east of the Pilot Flying J site is Interstate 5.

LAND USE AND ZONING

As discussed in Section 2.0, Project Description, the proposed Westside Annexation Area includes the annexation of a total of six parcels, including the 1.7 acres of APN 045-170-005 known as Parcel B. In addition, the Pilot Flying J project site (Parcel A of APN 045-170-005) would be annexed to the City of Orland. **Table 3.6-2** identifies the current uses and the General Plan land use designations for Glenn County and the City of Orland for the annexed properties. **Table 3.6-2** also shows the changes in land use designations and zoning district for each of the annexed parcels.

TABLE 3.6-2
GENERAL PLAN AND ZONING DESIGNATIONS

APN	General Plan Land Use Designation		Zoning/Prezoning	
	Glenn County	City of Orland	Glenn County	City of Orland
Westside Annexation Area				
045-140-003	Suburban Residential	Commercial	Rural Residential Estate (RE-2)	Community Commercial (C-2)
045-140-010	Service Commercial	Commercial	Service Commercial (SC)	Community Commercial (C-2)
045-140-011	Service Commercial	Commercial	Service Commercial (SC)	Community Commercial (C-2)
045-140-012	Service Commercial	Commercial	Service Commercial (SC)	Community Commercial (C-2)
045-170-003	Suburban Residential	Commercial	Rural Residential Estate (RE-1)	Open Space (O-S)
045-170-005 (Parcel B)	Highway and Visitor Service Commercial	Commercial	Highway and Visitor Commercial (HVC)	Commercial Highway ((C-H)
Pilot Flying J Travel Center Project				
045-170-005 (Parcel A)	Highway and Visitor Service Commercial	Commercial	Highway and Visitor Commercial (HVC)	Commercial Highway ((C-H)

As a part of the annexation process, a prezoning of the annexed properties is required. For the properties of the Westside Annexation Area, the prezoning of Community Commercial (C-2), Commercial Highway (C-H), and Open Space (O-S) has been proposed. For the Pilot Flying J site, as well as the 1.7-acre Parcel B located adjacent to the Travel Center site, the proposed prezone is Commercial Highway (C-H).

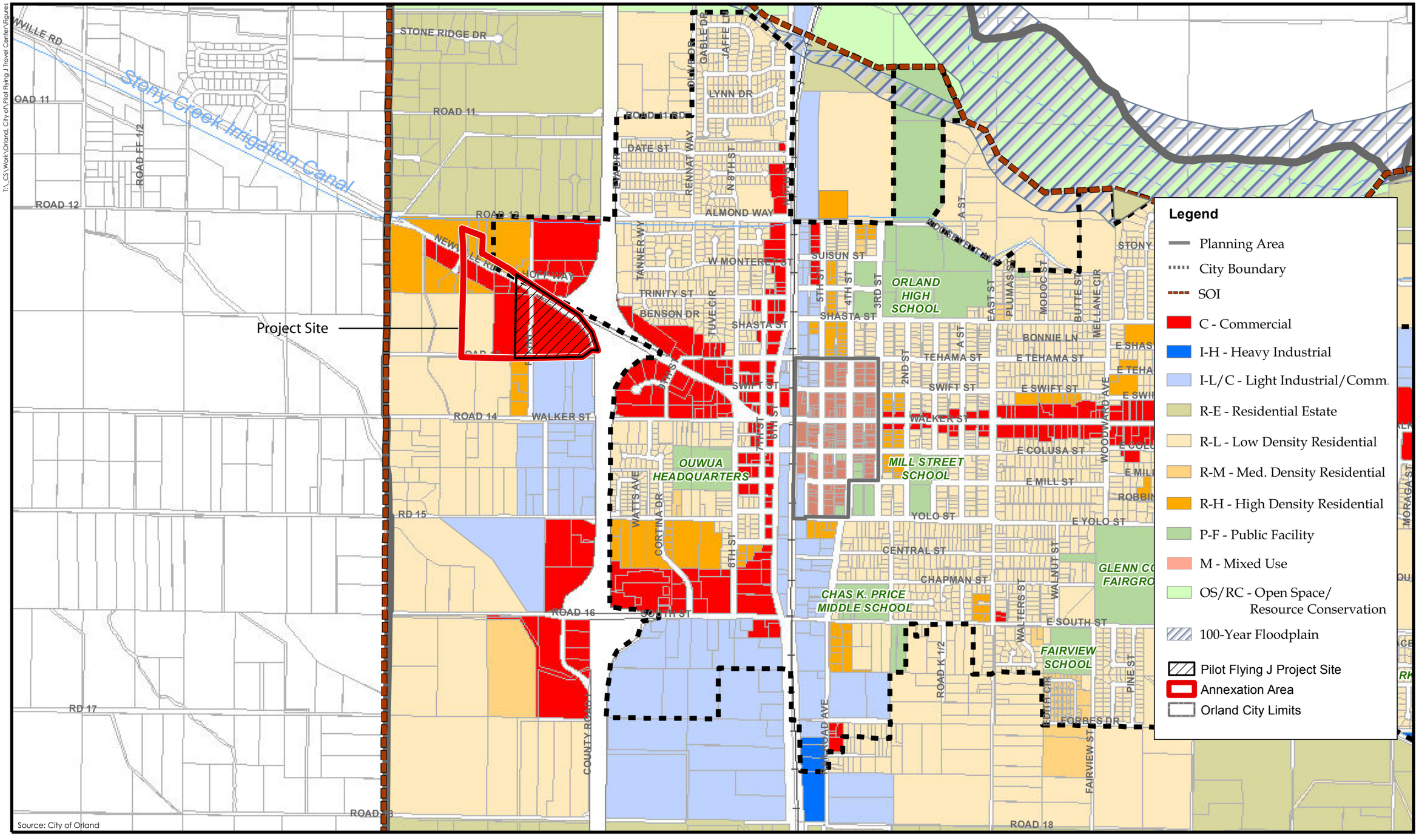

Figure 3.6-1
Orland General Plan Land Use Map

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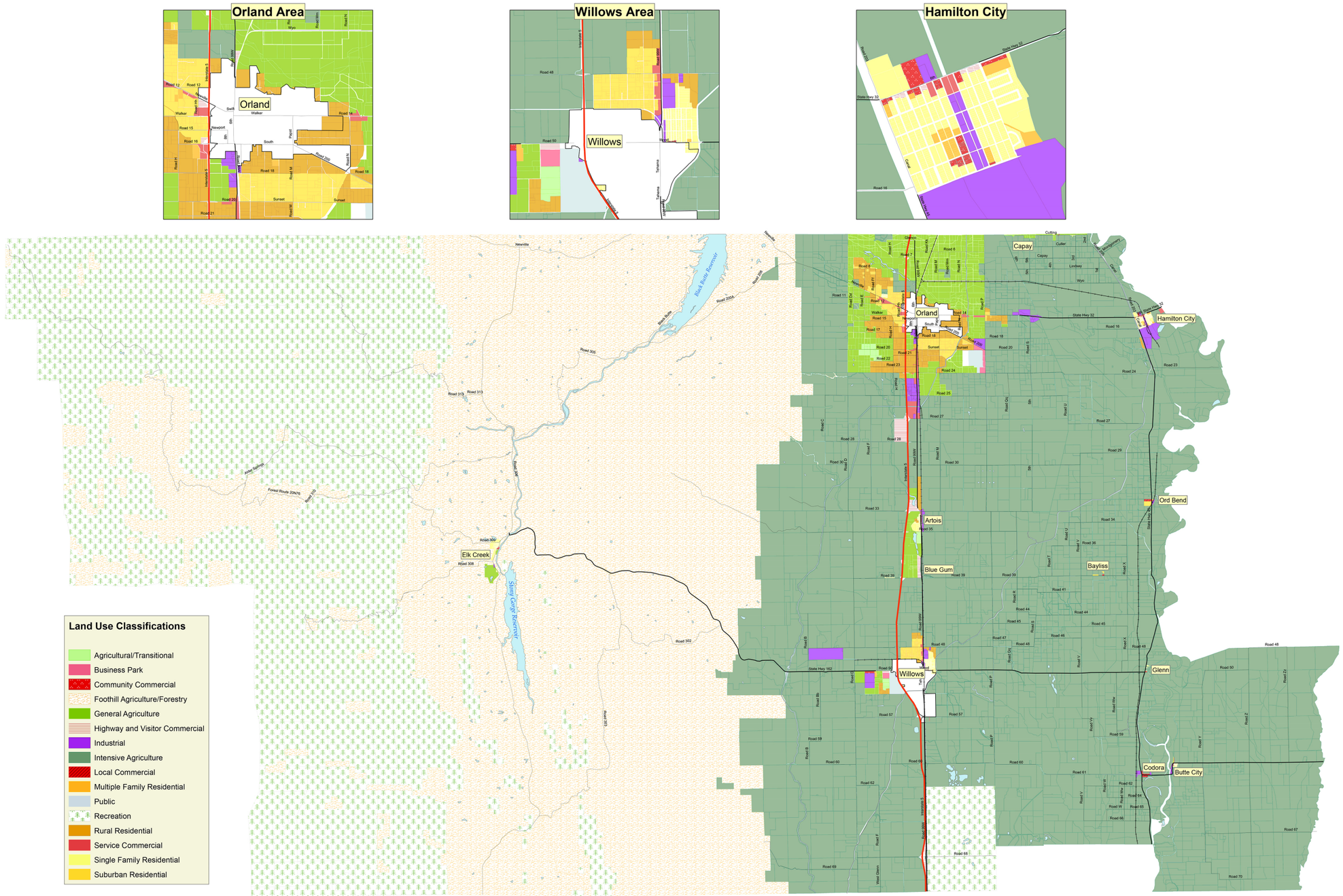

Source: Glenn County

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Figure 3.6-2
Glenn County General Plan Land Use Map

PMC®

The Commercial land use designation is identified as (Orland 2010a, pg. 2.0-20):

> *This designation allows up to 60 percent building coverage and up to 100 percent coverage by parking/paved areas in the downtown area. This classification is intended to provide for a range of uses including retail stores, restaurants, professional and medical offices, large office complexes, light manufacturing plants, outdoor recreation facilities, hotels, and many other uses involving the sale of a product or a service.*

Orland Zoning Ordinance Section 17.40.010 defines the C-2 zoning district as:

> *The community commercial or C-2 zone is intended to apply to areas where more complete commercial facilities are necessary for community convenience. Typically this zone will be applied in downtown Orland and in shopping centers. The regulations of this chapter and the provisions of Chapter 17.76 shall apply in all community commercial or C-2 zones.*

Principal permitted uses in the C-2 zone are as follows:

- Alcoholic beverage sales, on- and off-site
- Art galleries and studios
- Bakery, retail
- Banks other financial institutions
- Barber and beauty shops
- Bike sales/repair
- Bookstore
- Clothing and apparel sales
- Computer sales
- Drug stores, over 5,000 square feet
- Fire stations
- Food stores
- Government offices
- Hardware stores
- Health clubs
- Nursery
- Offices, administrative, professional and business
- Party rentals
- Pet stores
- Photography studios
- Post office
- Public utility buildings
- Restaurants
- Senior center
- Tailor shops

Orland Zoning Ordinance Section 17.44.010 defines the C-H zoning district as:

> *The highway service commercial or C-H zone is intended to provide necessary services and convenience for the traveling public along main roads or at highway intersection frontages at proper intervals and locations in developments designed for safety, convenience and suitable appearance. The regulations of this chapter and the provisions of Chapter 17.76 shall apply in all highway service commercial or C-H zones.*

Principal permitted uses in the C-H zone are as follows:

- All of the uses listed as permitted uses in the C-2 zone
- Automobile sales and repair
- Automobile service stations
- Bowling alley
- Car wash
- Crop and tree farming
- Drive-in restaurants and restaurants with drive-up window
- Electric motor repair
- Equipment rental
- Feed store
- Glass shop
- Heating/air
- Hospitals
- Hotels, motels
- Landscape construction
- Lumberyards
- Motorcycle sales
- Motor repair
- Muffler shop
- Novelty and specialty shops
- Nurseries and greenhouses, retail fruit and vegetable stands
- Paint booth
- Propane sales
- Pump sales/repair
- Radiator shops
- Senior center
- Tire sales
- Towing
- Trucking
- Vending repair
- Veterinary office (no overnight keeping of animals)

Orland Zoning Ordinance Section 17.56.010 defines the O-S zoning district as:

> *This zone classification is intended to be applied to properties which are found most properly to be preserved in a natural state and/or to provide open space buffer areas in which uses are restricted to recreational, conservation or light agricultural types, and including accessory and public service uses.*

Principal permitted uses in the O-S zone are as follows:

- Measures to promote conservation or natural terrain and vegetation and to reduce fire and erosion hazards
- Riding and hiking trails, picnic sites
- Public and private nonprofit riding stables, parks, golf courses, tennis and swimming clubs
- Crop and tree farming, grazing
- Uses which the Planning Commission determines, by written findings, are similar to the above

3.6.2 REGULATORY FRAMEWORK

LOCAL

City of Orland General Plan

The City of Orland General Plan is the long-range guide for growth and development in the city. The General Plan provides a framework for decision-making related to planning and long-term development in the local and regional context. The goals, policies, and implementation actions in the General Plan govern decisions relating to land use, traffic circulation, housing, community design, conservation and open space, noise, safety, and community facilities. The General Plan is also a tool to help City staff, City commissions, and the City Council make land use and public investment decisions and provides the framework for the City's Zoning Ordinance. It serves as the guide for the city as it grows over the next 15 to 20 years.

City of Orland General Plan EIR

The City of Orland General Plan Environmental Impact Report reviews the existing conditions in the city, analyzes potential environmental impacts from implementation of the General Plan, identifies objectives, policies, and programs from the proposed General Plan that serve to reduce and minimize impacts, and identifies additional mitigation measures, if necessary, to reduce potentially significant impacts of the General Plan. Based on analysis provided in the General Plan EIR, buildout of the General Plan was found to result in significant and unavoidable impacts related to agriculture, air quality, traffic, and population growth.

City of Orland Zoning Ordinance

The City of Orland Municipal Code provides regulations for governmental operations, development, infrastructure, public safety, and business operations in the city. Title 17, Zoning, of the Municipal Code is the City's Zoning Ordinance. The Zoning Ordinance was adopted to promote and protect the public health, safety, and general welfare, to provide a plan for sound and orderly development, and to ensure social and economic stability in the various zones established in the ordinance.

3.6.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Appendix G of the California Environmental Quality Act (CEQA) Guidelines is used to determine whether a project impact would be considered significant. A project is considered to have significant impacts if implementation of the project will:

1) Physically divide an established community.

2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

3) Conflict with any applicable habitat conservation plan or natural community conservation plan.

METHODOLOGY

The methodology used for this impact analysis involved a comparison and assessment of the proposed project to the City of Orland General Plan, the City of Orland General Plan EIR, and the City of Orland Zoning Ordinance.

PROJECT IMPACTS AND MITIGATION MEASURES

Physically Divide an Established Community (Standard of Significance 1)

Impact 3.6.1 The proposed project would not physically divide an established community. **No impact** would occur.

Westside Annexation Area & Pilot Flying J Project

The proposed Westside Annexation Area and Pilot Flying J site are located in an area of mixed commercial, residential, and agricultural uses. The only established "community" of any type is the mobile home park located to the north of the Westside Annexation Area. The proposed Westside Annexation Area and Pilot Flying J project would not divide this community, as the project area is located south of the mobile home park. As such, annexation of the Westside Annexation Area and development of the proposed Pilot Flying J Travel Center will not divide an established community.

Mitigation Measures

None required.

Conflict with City of Orland General Plan and Zoning Ordinance (Standard of Significance 2)

Impact 3.6.2 The proposed Westside Annexation Area and Pilot Flying J project is consistent with the existing General Plan land use designation and proposed prezoning for the project site. **No impact** would occur as a result of the project.

The Westside Annexation Area and the Pilot Flying J site would be annexed under the existing Orland General Plan land use designation of Commercial. One parcel (APN 045-140-003) in the Westside Annexation Area would have the existing General Plan land use designation of High Density Residential changed to Commercial to be compatible with the existing use of this parcel, which is a gas station/convenience store.

Westside Annexation Area

As shown previously, the Westside Annexation Area would be prezoned as C-H, C-2, and O-S. The C-H and C-2 zoning districts allow a variety of commercial uses, and the O-S zoning district allows the continuance of existing agricultural activities. Those existing uses in the Westside Annexation Area would be allowed to continue without requiring any type of conditional use permit or the like, unless the existing use were to change use type. For example, if an existing single-family home were to be converted or demolished and redeveloped as a commercial use in the C-2 zone, all use conditions of that zone would be required. As such, the proposed Westside Annexation Area would result in **no impact** in this area.

Pilot Flying J Project

For the Pilot Flying J site, the C-H zoning district allows by right (without a use permit) automobile service stations, restaurants, and food stores. As such, the Pilot Flying J Travel Center is consistent

with this zoning and would not conflict with either the General Plan land use designation or the zoning of the site. Additionally, these types of uses would not conflict with the Glenn County General Plan land use designations or zoning districts, as these designations and districts are similar in allowed uses as shown in **Table 2.0-1**. As such, the proposed Pilot Flying J Travel Cener would result in **no impact** in this area.

Mitigation Measures

None required.

Conflict with a Habitat Conservation Plan or Natural Community Conservation Plan (Standard of Significance 3)

Impact 3.6.3 The Westside Annexation Area and the Pilot Flying J project site are not within the boundaries of or otherwise subject to any habitat conservation plans or natural community conservation plans. **No impact** would occur.

Westside Annexation Area & Pilot Flying J Project

The Westside Annexation Area and Pilot Flying J project area is not located in an adopted habitat conservation plan, natural community conservation plan, or other approved habitat conservation plan. Thus, **no impacts** would occur in this regard.

Mitigation Measures

None required.

3.6.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

The cumulative setting includes Orland and Glenn County in the vicinity of the Westside Annexation Area. The General Plan land use maps for Glenn County and Orland indicate that commercial use is intended for the Westside Annexation Area and the Pilot Flying J site.

Cumulative Impacts on Land Use (Standard of Significance 2)

Impact 3.6.4 The proposed project could lead to additional development of commercial uses along Newville Road and in the vicinity. There would be **no impact.**

Once annexed, the proposed Westside Annexation Area and Pilot Flying J Travel Center would be consistent with the adopted Orland General Plan land use designations and zoning. Additionally, the Pilot Flying J t site would be consistent with the commercial uses allowed in the C-H zoning district. All existing uses in the Westside Annexation Area would be continued without any conditional uses permits or the like required by the City. All changes in land use would be required to be consistent with the General Plan land use designations and zoning. As such, the Westside Annexation Area and the Pilot Flying J project would further promote those land uses identified in the Orland General Plan and therefore be in harmony with the City's future intended uses for the area. Therefore, there is **no impact** related to cumulative land use associated with the proposed Westside Annexation Area or the Pilot Flying J project.

Mitigation Measures

None required.

REFERENCES

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3.7 Noise

This section describes the existing noise environment in the area of the project site and the potential for the proposed project to result in noise impacts exceeding the City of Orland's applicable noise level criteria. Data used to prepare this section was taken from the traffic impact study prepared by KD Anderson & Associates (2015) and information obtained by measuring and modeling existing and future noise levels at the project site and in the surrounding area (**Appendix 3.7**).

3.7.1 FUNDAMENTALS OF SOUND AND ENVIRONMENTAL NOISE

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations which make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound because of its potential to disrupt sleep, to interfere with speech communication, and to damage hearing. A typical noise environment consists of a base of steady "background" noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

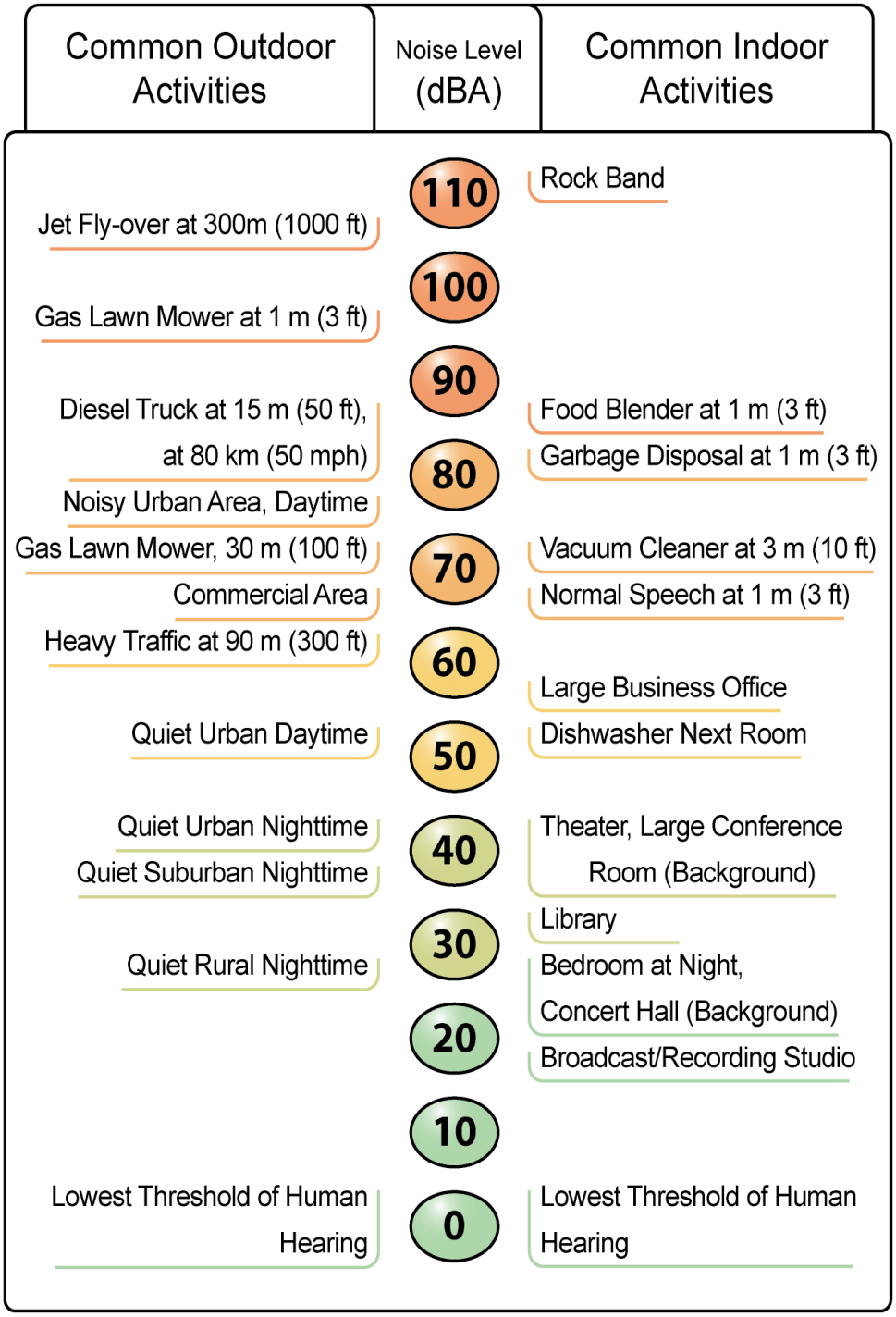
AMPLITUDE

Amplitude is the difference between ambient air pressure and the peak pressure of the sound wave. Amplitude is measured in decibels on a logarithmic scale. Laboratory measurements correlate a 10 dB increase in amplitude with a perceived doubling of loudness and establish a 3 dB change in amplitude as the minimum audible difference perceptible to the average person.

FREQUENCY

Frequency is the number of fluctuations of the pressure wave per second. The unit of frequency is the Hertz. One Hertz equals one cycle per second. The human ear is not equally sensitive to sound of different frequencies. To approximate this sensitivity, environmental sound is usually measured in A-weighted decibels. On this scale, the normal range of human hearing extends from about 10 dBA to about 140 dBA. Common community noise sources and associated noise levels, in dBA, are depicted in **Figure 3.7-1**.

FIGURE 3.7-1
TYPICAL COMMUNITY NOISE LEVELS



Source: Caltrans 2012

ADDITION OF DECIBELS

Because decibels are logarithmic units, sound levels cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. Under the decibel scale, three sources of equal loudness together would produce an increase of 5 dB.

SOUND PROPAGATION AND ATTENUATION

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics. No excess attenuation is assumed for hard surfaces like a parking lot or body of water. Soft surfaces, such soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. For line sources, an overall attenuation rate of 3 dB per doubling of distance is assumed.

Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA. The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer residential units is generally 30 dBA or more.

NOISE DESCRIPTORS

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise upon people is largely dependent upon the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined below.

- L_{eq}, the equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

- L_{dn}, the Day-Night Average Level, is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.

- CNEL, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 PM to 10:00 PM and a 10 dBA "weighting" added to noise during the hours of 10:00 PM to 7:00 AM to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.

- L_{min} is the minimum instantaneous noise level experienced during a given period of time.

- L_{max} is the maximum instantaneous noise level experienced during a given period of time.

- Percentile Noise Level (L_n) is the noise level exceeded for a given percentage of the measurement time. For example, L_{10} is the noise level exceeded for 10 percent of the measurement duration, and L_{50} is the noise level exceeded for 50 percent of the measurement duration.

HUMAN RESPONSE TO NOISE

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night, or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings that can provide noise levels as low as 20 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with more noisy urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted for understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived by humans.

- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference.

- A change in level of at least 5 dB is required before any noticeable change in community response would be expected. An increase of 5 dB is typically considered substantial.

- A 10 dB change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

3.7.2 EXISTING SETTING

NOISE-SENSITIVE RECEPTORS

Noise-sensitive land uses are those that may be subject to stress and/or interference from excessive noise. Noise-sensitive land uses include public schools, hospitals, and institutional uses such as churches, museums, and private schools. Typically, residential uses are also considered noise-sensitive receptors. Industrial and commercial land uses are generally not considered sensitive to noise. Noise-sensitive receptors in the project area include a mobile home park located on the opposite side of Newville Road, a single-family residence that fronts Newville Road and is also adjacent to County Road HH, a single-family residence on County Road HH, and a single-family residence on County Road 13. These receptors are shown in **Figure 3.7-2**.

EXISTING AMBIENT NOISE LEVELS

According to the City's General Plan Noise Element, the major noise sources in Orland consist of Interstate 5 (I-5), State Route 32 (Walker Street), local traffic on city streets, commercial and industrial uses, active recreation areas of parks, outdoor play areas of schools, auto racing events at the fairgrounds, and occasional railroad operations.

AMBIENT NOISE MEASUREMENTS

The noise environment in the project area is defined primarily by vehicular traffic on area roadways. To a lesser extent, nearby agricultural activities also contribute to ambient noise levels in the area.

To document existing ambient noise levels at the project site, short-term ambient noise measurements were conducted by PMC staff on October 15, 2014. Existing daytime noise levels were monitored at five locations around the project area, which are depicted in **Figure 3.7-2**, in order to identify representative noise levels at various areas. The measurements were taken with a Larson Davis SoundExpert LxT precision sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. The average noise levels and sources of noise measured at each location are identified in **Table 3.7-1**. The noise levels ranged from 56.0 to 66.2 dBA L_{eq}. The City's limit for commercial and residential exterior noise levels is 65 dBA.

TABLE 3.7-1
EXISTING NOISE LEVELS AT THE PROPOSED PROJECT SITE

Map #	Location	Run Time	Primary Noise Sources	Noise Level Statistics		
				L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)
1	Northwest Corner of Travel Center Site	October 15, 2014 1:42 PM	Traffic on Newville Road	64.0	50.1	83.3
2	In Front of Black Butte Mobile Home Park Northwest of the Travel Center Site	October 15, 2014 2:00 PM	Traffic on Newville Road	64.4	49.4	79.4
3	Near Corner of County Road HH and Road 13, Southwest Corner of Travel Center Site	October 15, 2014 2:20 PM	Traffic on County Road HH	60.2	46.4	78.8
4	South Side of Travel Center Site, Across from Single-Family Residence on Road 13	October 15, 2014 2:41 PM	Traffic on County Road HH	56.0	47.0	63.6
5	Southeast Corner of Travel Center Site at the Eastern Terminus of Road 13	October 15, 2014 3:02 PM	Traffic on Interstate 5	66.2	51.0	73.4

EXISTING ROADWAY NOISE LEVELS

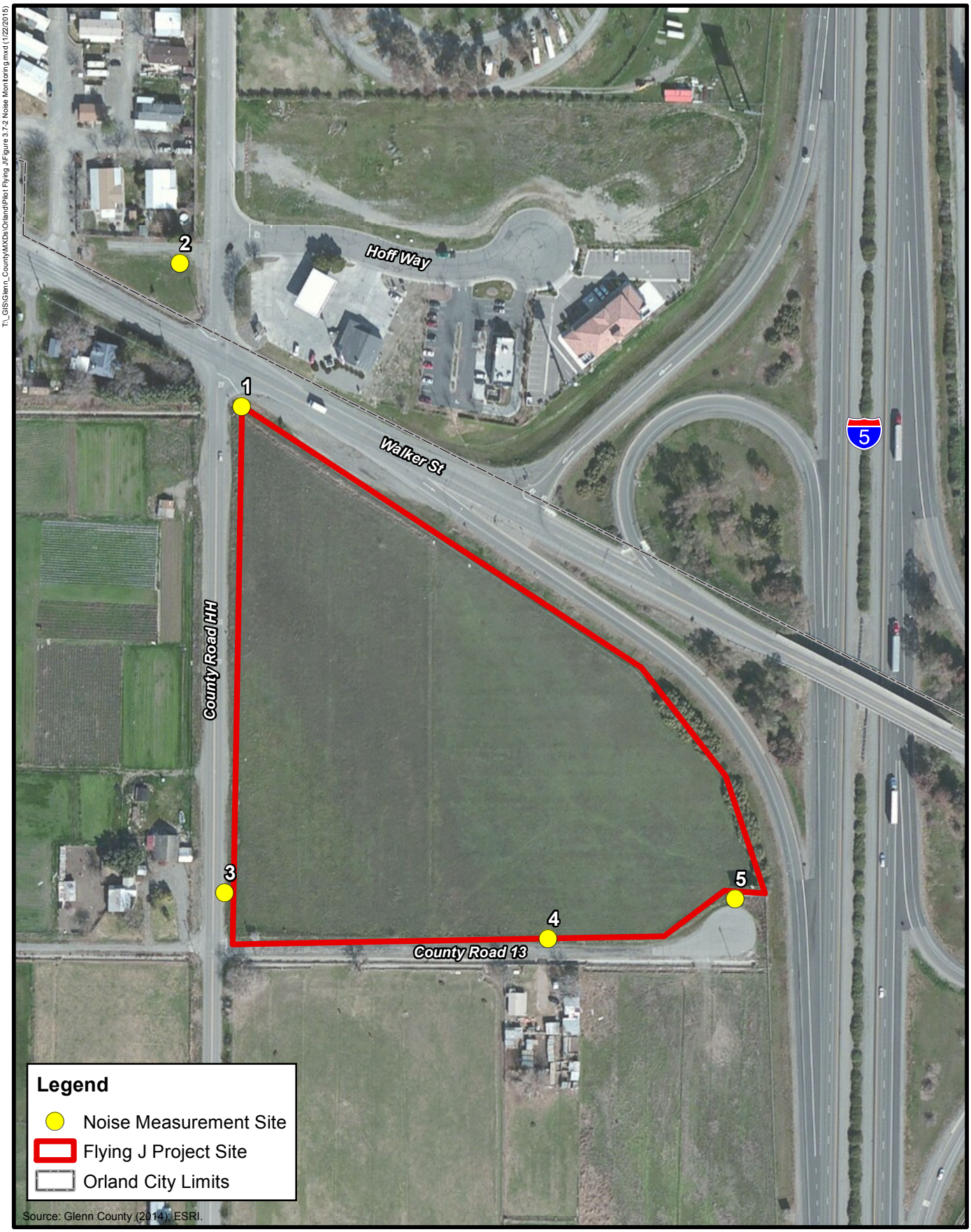
Existing roadway noise levels were calculated for the roadway segments in the vicinity of the project area. This task was accomplished using the Federal Highway Administration (FHWA) Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the project traffic analysis (**Appendix 3.7**). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA model have been modified to reflect average vehicle noise rates identified for California by the California Department of Transportation (Caltrans). The Caltrans data shows that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along these roadway segments are presented in **Table 3.7-2**.

TABLE 3.7-2
EXISTING TRAFFIC NOISE LEVELS

Roadway Segment	Surrounding Uses	L_{eq} at 75 Feet from Near-Travel-Lane Centerline
Newville Road – West of County Road HH	Rural Residential	65.7
Newville Road – County Road HH to I-5 Southbound Ramp	Rural Residential	67.1
Newville Road – I-5 Northbound Ramp to 9th Street	Rural Residential	68.3
Newville Road – 9th Street to 8th Street	Rural Residential	67.7
Newville Road – East of 8th Street	Rural Residential	67.8
County Road HH – Newville Road to County Road 13	Rural Residential	58.0

*Note: Traffic noise levels were calculated using the FHWA roadway noise prediction model. Refer to **Appendix 3.7** for noise modeling assumptions and results.*

T:_GIS\Glenn_County\MXDs\Orland\Pilot Flying J\Figure 3.7-2 Noise Monitoring.mxd (1/22/2015)



N

100 0 100
Feet

Figure 3.7-2
Noise Monitoring Locations

PMC®

FUNDAMENTALS OF ENVIRONMENTAL GROUNDBORNE VIBRATION

Vibration is sound radiated through the ground. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and in the United States is referenced as vibration decibels (VdB).

The background vibration velocity level in residential areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. Groundborne vibration is almost never annoying to people who are outdoors. Although the motion of the ground may be perceived, without the effects associated with the shaking of a building, the motion does not provoke the same adverse human reaction. In addition, the rumble noise that usually accompanies building vibration is perceptible only inside buildings (FTA 2006). As such, the range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in **Table 3.7-3.**

TABLE 3.7-3
HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUNDBORNE VIBRATION

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: FTA 2006

3.7.2 REGULATORY FRAMEWORK

STATE

Governor's Office of Planning and Research

The Governor's Office of Planning and Research (OPR) (2003), published the State of California General Plan Guidelines, which provide guidance for the acceptability of projects within specific noise environments based on average-daily noise conditions (CNEL/L_{dn}). However, it is important to note that the OPR guidance does not take into account local conditions, including a particular community's sensitivity to noise, noise-reduction goals, or assessment of the relative importance of noise pollution. As a result, noise standards developed by local jurisdictions typically differ somewhat from the OPR guidance. In the case of the proposed project, the City has adopted local noise standards, which are most relevant to the noise conditions in Orland. Therefore, this analysis is based on local standards, and the OPR guidance is not considered.

LOCAL

City of Orland General Plan

The City has established noise standards in its adopted General Plan Noise Element intended to protect community residents from harmful and annoying noise levels. These policies identify permissible maximum exterior and interior average-daily noise standards for determination of land use compatibility, require buffering standards to separate residents from highways and industrial uses when possible, and consider acoustical design of projects (Goal 6.1 and associated policies). The City's General Plan noise standards are summarized in **Table 3.7-4**. As shown in the table, the land use compatibility noise standard for commercial and industrial land uses is 65 dBA L_{dn} (Orland 2010). It is important to note that these noise criteria apply to newly proposed land uses and are based on average-daily noise levels. The land use compatibility standards mean that the proposed new land use cannot be sited in a location where it would receive exterior and interior noise above the maximum levels specified, unless adequate noise-reduction measures have been incorporated to reduce noise levels to within acceptable levels.

TABLE 3.7-4
CITY OF ORLAND MAXIMUM PERMISSIBLE NOISE CRITERIA FOR DETERMINATION OF LAND USE COMPATIBILITY

Proposed Land Use	Maximum L_{dn} (dBA)	
	Exterior	Interior
Residential[1]	60–65[2]	45
Commercial[3]	65	50
Industrial[3]	65	50

Source: Orland 2010
Notes:
1. *Outdoor activity areas for single-family residential uses are defined as back yards. For large parcels or residences with no clearly identified outdoor activity area, the standard shall be applicable within a 100-foot radius of the residence. For multi-family residential uses, the exterior noise level standard shall be applied at the common outdoor recreation area, such as at pools, play areas, or tennis courts.*
2. *Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn or less using a practical application of the best available noise-reduction measures, an exterior noise level of up to 65 dB Ldn may be allowed provided that available exterior noise reduction measures have been implemented and interior noise levels are in compliance with this table.*
3. *Only the exterior spaces of the uses designated for employee or customer relaxation have any degree of sensitivity to noise.*

General Plan Noise Element Policy 6.1.I states that noise associated with construction activities is exempt from all noise level standards, though Policy 6.1.J limits construction activities to the hours between 7 AM and 5 PM unless an exemption is received from the City to cover special circumstances.

City of Orland Municipal Code

The City has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. Chapter 8.20 of the Municipal Code states, "It is unlawful for any person on residential property or a public way to willfully make or continue or cause to be made or continued by human voice, machine, animal or device, or any combination thereof, any offensive, excessive, unnecessary or unusually loud noise or any noise which annoys, disturbs, injures or endangers the comfort, repose, health, peace or safety of others on residential property or public ways within the city."

3.7.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

According to California Environmental Quality Act (CEQA) Guidelines Appendix G, impacts related to noise are considered significant if implementation of the project would result in any of the following conditions:

1) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or of applicable standards of other agencies.

2) Exposure of persons to or generation of an excessive groundborne vibration or groundborne noise level.

3) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

4) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

5) For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a public use airport, exposure of people residing or working in the project area to excessive noise levels.

6) For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

The project site is not located in an airport land use plan, within 2 miles of a public airport or public use airport, or in the vicinity of a private airstrip. Therefore, this analysis does not further evaluate Standards of Significance 5 and 6.

Criteria for determining the significance of noise impacts were developed based on information contained in CEQA Guidelines Appendix G and the City's noise standards and guidelines. The City of Orland Noise Element standard of 60–65 dBA L_{dn} for new residential uses is utilized as the threshold for project impacts to the residences in the vicinity of the project. The analysis takes into account the increases in noise levels over the pre-project noise conditions. With this in mind, the Federal Interagency Committee on Noise (FICON) developed guidance to be used for the assessment of project-generated increases in noise levels that take into account the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments. FICON-recommended noise evaluation criteria are summarized in **Table 3.7-5**.

TABLE 3.7-5
FEDERAL INTERAGENCY COMMITTEE ON NOISE
RECOMMENDED CRITERIA FOR EVALUATION OF INCREASES IN AMBIENT NOISE LEVELS

Ambient Noise Level Without Project	Increase Required for Significant Impact
<60 dB	5.0 dB, or greater
60–65 dB	3.0 dB, or greater
>65 dB	1.5 dB, or greater

Source: FAA 2000; FICON 1992

As depicted in **Table 3.7-5**, a noise level increase of 5.0, or greater, would typically be considered to result in increased levels of annoyance where existing ambient noise levels are less than 60 dB. In areas where the ambient noise level ranges from 60 to 65 dB, increased levels of annoyance would be anticipated at increases of 3 dB, or greater. Increases of 1.5 dB, or greater, could result in increased levels of annoyance in areas where the ambient noise level exceeds 65 dB. The rationale for the FICON-recommended criteria is that as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant increases in annoyance (FICON 1992; FAA 2000). For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5.0, or greater, where the noise levels, without project implementation, are less than 60 dBA CNEL/L_{dn}; 3 dBA, or greater, where the noise level, without project implementation, ranges from 60 to 65 dBA CNEL/L_{dn}; and 1.5 dB, or greater, where the noise level, without project implementation, exceeds 65 dBA CNEL/L_{dn}, based on the FICON noise criteria (**Table 3.7-5**). The rationale for these noise criteria is that as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause a substantial increase in annoyance.

This analysis uses the Federal Transit Administration (FTA) vibration impact thresholds for sensitive buildings, residences, and institutional land uses. These thresholds are 85 VdB, which is the vibration level that is considered by the FTA to be acceptable only if there are an infrequent number of events per day as described in **Table 3.7-3**. In terms of groundborne vibration impacts on nearby structures, this analysis will use the FTA's vibration damage threshold of approximately 100 VdB for fragile buildings (FTA 2006).

METHODOLOGY

This analysis of the existing and future noise environments is based on noise level monitoring, noise prediction modeling, and empirical observations. The residential uses in the vicinity of the project area are considered noise-sensitive receptors. As stated in Section 2.0, Project Description, the proposed project includes two components: (1) the annexation by the City of Orland of a total of six parcels and roadways, and (2) the development of a proposed Pilot Flying J Travel Center. The Pilot Flying J Travel Center is analyzed separately in this EIR because the travel center site has specific development proposed while the remaining parcels do not. Other than development of 7.5 acres with the Pilot Flying J Travel Center, all existing uses in the area to be annexed by the City are to remain as currently existing, and no development of these areas has been proposed as a part of this project. However, in order to ascertain the potential for environmental impact resulting from annexation of this additional 12.13 acres (known as the Westside Annexation Area), a development potential for each individual parcel has been assumed based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed (see **Table 2.0-1**). Based on the development potential shown in **Table 2.0-1**, the Westside Annexation Area could result in 1.7 acres of new commercial uses

accommodating 44,000 square feet of building space. The remaining acreage of the Westside Annexation Area already accommodates existing uses.

Long-Term Operational Stationary-Source Noise

Predicted noise levels associated with on-site stationary noise sources for the project components were calculated based on representative data obtained from existing literature and noise assessments prepared for similar projects. Operational noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source. Operational noise levels were calculated at the project site property lines and nearby land uses for comparison to the City's noise standards.

Long-Term Traffic Noise

The potential for the project to permanently increase traffic noise is addressed under the following scenarios: the existing plus project and the cumulative plus project. Traffic noise levels were calculated using the FHWA roadway noise prediction model (FHWA-RD-77-108) based on California vehicle reference noise emission factors and traffic data obtained from the traffic analysis prepared for the project. Additional input data included vehicle speeds, ground attenuation factors, and roadway widths. Predicted noise levels were calculated at a distance of 75 feet from the near-travel-lane centerline. Vehicle distribution was adjusted based on truck volume data obtained from the traffic analysis.

Groundborne Vibration

Groundborne vibration levels associated with construction-related activities as well as operations were evaluated utilizing typical groundborne vibration levels associated with construction equipment and heavy-duty trucks, obtained from the FTA guidelines set forth above. Potential groundborne vibration impacts were evaluated taking into account the distance from construction activities to nearby land uses and typically applied criteria for structural damage.

Short-Term Construction Noise

Predicted noise levels at nearby noise-sensitive land uses were calculated utilizing typical noise levels and usage rates associated with construction equipment, derived from representative data obtained from similar construction projects. Construction noise levels were predicted assuming an average noise attenuation rate of 6 dB per doubling of distance from the source.

PROJECT IMPACTS AND MITIGATION MEASURES

Traffic Noise Impacts (Standards of Significance 1 and 3)

Impact 3.7.1 Operation of the proposed project would generate increased local traffic volumes that would cause a substantial permanent increase in ambient noise levels in the project vicinity. This would be considered a **potentially significant** impact.

Operation of the proposed project would generate local traffic as a result of residents, employees, and patrons entering and exiting the site. A noise level increase of 3 dBA L_{dn} is not readily perceptible to most people. Thus, for the purpose of this analysis, a permanent increase of 3 dBA L_{dn} over ambient noise levels without the project is considered to be substantial. The increase in traffic resulting from implementation of the proposed project could increase the ambient noise

levels at off-site locations (such as residential uses) in the project vicinity. For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5 dBA, or greater, where the noise levels, without project implementation, are less than 60 dBA L_{dn}; 3 dBA, or greater, where the noise level, without project implementation, ranges from 60 to 65 dBA L_{dn}; and 1.5 dB, or greater, where the noise level, without project implementation, exceeds 65 dBA L_{dn}.

Westside Annexation Area

An Existing Plus Westside Annexation Area scenario is included to compare noise levels that would result from the trip distribution to existing baseline noise levels. Existing and Existing Plus Westside Annexation Area traffic noise levels are provided in **Table 3.7-6**. The Existing Plus Westside Annexation Area scenario is conservative in estimating the contribution to area traffic noise resultant from additional growth in the city, which would generate increased ambient traffic noise. **Table 3.7-6** shows the calculated roadway noise levels under existing (2015) traffic levels compared to the "with Westside Annexation Area" condition.

TABLE 3.7-6
PREDICTED INCREASES IN TRAFFIC NOISE LEVELS
EXISTING PLUS WESTSIDE ANNEXATION AREA CONDITIONS

Roadway Segment	L_{dn} at 75 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact
	Without Westside	With Westside			
Newville Road – West of County Road HH	64.6	64.6	0.0	3.0	No
Newville Road (SR 32) – County Road HH to I-5 Southbound Ramp	66.0	66.9	0.9	1.5	No
Newville Road (SR 32) – I-5 Northbound Ramp to 9th Street	67.3	67.5	0.2	1.5	No
Newville Road (SR 32) – 9th Street to 8th Street	66.6	66.8	0.2	1.5	No
Newville Road (SR 32) – East of 8th Street	66.7	66.9	0.2	1.5	No
County Road HH – Newville Road to County Road 13	57.0	59.9	2.9	5.0	No

Notes:

1. *Traffic noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (KD Anderson 2015).*
2. *For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5.0 dB, or greater, where the noise levels, without project implementation, are less than the City's "normally acceptable" noise standard. Where the noise level, without project implementation, equals applicable noise standards, an increase of 3.0 dB, or greater, would be considered a substantial increase. Where the noise level, without project implementation, exceeds applicable noise standards, an increase of 1.5 dB, or greater, would be considered a substantial increase.*

As shown in **Table 3.7-6**, implementation of the development potential within the Westside Annexation Area under the Existing Plus Westside Annexation Area scenario would not result in roadway noise level increases beyond noise level thresholds. This impact would be **less than significant**.

Pilot Flying J Project

An Existing Plus Pilot Flying J project scenario is included for informational purposes to compare noise levels that would result from the trip distribution to existing baseline noise levels. Existing and Existing Plus Pilot Flying J traffic noise levels are provided in **Table 3.7-7**. The Existing Plus Pilot Flying J

project scenario is conservative in estimating the contribution to area traffic noise resulting from additional growth in the city, which would generate increased ambient traffic noise. **Table 3.7-7** shows the calculated roadway noise levels under existing (2015) traffic levels compared to the "with Pilot Flying J project" condition.

TABLE 3.7-7
PREDICTED INCREASES IN TRAFFIC NOISE LEVELS
EXISTING PLUS PILOT FLYING J CONDITIONS

Roadway Segment	L_{dn} at 75 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact	Affected Land Use
	Without Pilot Flying J	With Pilot Flying J				
Newville Road – West of County Road HH	64.6	69.8	**4.1**	3.0	**Yes**	Residential Front Yards
Newville Road (SR 32) – County Road HH to I-5 Southbound Ramp	66.0	72.8	**5.7**	1.5	**Yes**	Commercial
Newville Road (SR 32) – I-5 Northbound Ramp to 9th Street	67.3	72.8	**4.5**	1.5	**Yes**	Commercial
Newville Road (SR 32) – 9th Street to 8th Street	66.6	72.2	**4.5**	1.5	**Yes**	Commercial
Newville Road (SR 32) – East of 8th Street	66.7	72.2	**4.4**	1.5	**Yes**	Commercial
County Road HH – Newville Road to County Road 13	57.0	67.0	**9.0**	5.0	**Yes**	Residential Yard

Notes:
1. *Traffic noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (KD Anderson 2015).*
2. *For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5.0 dB, or greater, where the noise levels, without project implementation, are less than the City's "normally acceptable" noise standard. Where the noise level, without project implementation, equals applicable noise standards, an increase of 3.0 dB, or greater, would be considered a substantial increase. Where the noise level, without project implementation, exceeds applicable noise standards, an increase of 1.5 dB, or greater, would be considered a substantial increase.*

As shown in **Table 3.7-7**, implementation of the Pilot Flying J project under the Existing Plus Pilot Flying J project scenario would result in roadway noise level increases beyond noise level thresholds at all vicinity roadway segments. The primary areas that would be affected include the outdoor activity at several commercial land uses fronting Newville Road/State Route 32, including the proposed travel center. The exteriors of residences on either side of Newville Road, west of County Road HH, would also be affected, as well as a single residence at the northwest corner of County Road HH/County Road 13. As there is no feasible mitigation available to reduce the increase in roadway noise levels, this impact would be **significant and unavoidable**.

Mitigation Measures

No feasible mitigation available.

On-Site Noise Source Impacts (Standards of Significance 1 and 3)

Impact 3.7.2 Implementation of the proposed project would not result in on-site noise levels that would exceed the City's applicable noise standards. However, the project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to on-site noise sources. This would be considered a **potentially significant** impact.

On-site sources associated with the project would generate noise audible at adjacent sensitive receptors. On-site noise sources would include vehicle engine noise from on-site traffic circulation. The noise existing environment in the area of the project site includes traffic noise from vehicles on Interstate 5 and Newville Road. As identified in **Table 3.7-1**, the project is in an area where existing noise levels measure from 56 to 66.2 dBA L_{eq}.

Westside Annexation Area

Noise generated during the operation of 44,000 square feet of commercial building space would be predominantly associated with the on-site operation of heavy-duty trucks and vehicle activity in on-site parking. **Table 3.7-8** shows the calculated noise levels from on-site traffic circulation compared to the existing ambient noise environment.

TABLE 3.7-8
SUMMARY OF WESTSIDE ANNEXATION AREA ON-SITE SOURCE NOISE LEVELS

On-Site Traffic Circulation	Existing Conditions	On-Site Westside Annexation Area Contribution	Increase	Threshold	Impact
Noise Level (dBA L_{eq}) at Residence on County Road 13	56.0	55.0	None	5.0	No
Noise Level (dBA L_{eq}) at Residence on County Road HH	60.2	55.0	None	3.0	No
Noise Level (dBA L_{eq}) at Residence on Corner of Newville Road & County Road HH	64.0	44.7	None	3.0	No

Notes:

1. *Westside Annexation Area on-site traffic circulation noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (KD Anderson 2015).*
2. *Noise levels without Westside Annexation Area from Table 3.7-1.*
3. *For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5.0 dB, or greater, where the noise levels, without project implementation, are less than the City's "normally acceptable" noise standard. Where the noise level, without project implementation, equals applicable noise standards, an increase of 3.0 dB, or greater, would be considered a substantial increase. Where the noise level, without project implementation, exceeds applicable noise standards, an increase of 1.5 dB, or greater, would be considered a substantial increase.*

As shown in **Table 3.7-8**, implementation of the development potential within the Westside Annexation Area would not result in on-site-generated noise level increases beyond noise level thresholds. This impact would be **less than significant**.

Pilot Flying J Project

As shown in **Figure 2.0-5**, heavy-duty truck parking would be provided at the eastern and southeastern portions of the site. The diesel truck fuel dispensers and the truck scale would be located in the central portion of the site. Therefore, noise generated from heavy-duty trucks circulating and parking on the site would primarily affect the residence directly south of the site

on County Road 13 and the residence just west of the site on County Road HH. At the peak hour, it is estimated there would be a maximum of 140 heavy-duty truck trips entering and leaving the travel center (KD Anderson 2015). In addition, a maximum of 203 automobiles are estimated to arrive and depart the site during the peak hour. These vehicles would predominantly circulate around the northern portion of the site, potentially affecting the residence on Newville Road to the northwest. **Table 3.7-9** shows the calculated noise levels from on-site traffic circulation compared to the existing ambient noise environment.

TABLE 3.7-9
SUMMARY OF PILOT FLYING J ON-SITE SOURCE NOISE LEVELS

On-Site Traffic Circulation	Existing Conditions	On-Site Pilot Flying J Contribution	Increase	Threshold	Impact
Noise Level (dBA L_{eq}) at Residence on County Road 13	56.0	62.8	**6.8**	5.0	**Yes**
Noise Level (dBA L_{eq}) at Residence on County Road HH	60.2	60.8	0.6	3.0	No
Noise Level (dBA L_{eq}) at Residence on Corner of Newville Road & County Road HH	64.0	64.0	0.0	3.0	No

Notes:

1. *Pilot Flying J on-site traffic circulation noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (KD Anderson 2015).*
2. *Noise levels without Pilot Flying J from Table 3.7-1.*
3. *For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5.0 dB, or greater, where the noise levels, without project implementation, are less than the City's "normally acceptable" noise standard. Where the noise level, without project implementation, equals applicable noise standards, an increase of 3.0 dB, or greater, would be considered a substantial increase. Where the noise level, without project implementation, exceeds applicable noise standards, an increase of 1.5 dB, or greater, would be considered a substantial increase.*

As previously described, the land use compatibility noise standard for commercial land uses is 65 dBA and the City of Orland Noise Element standard of 60–65 dBA for new residential uses is used as the threshold for project impacts to the residences in the vicinity of the proposed travel center. As shown in **Table 3.7-9**, implementation of the Pilot Flying J project would not result in an increase of noise levels beyond these thresholds. However, as previously stated, a noise level increase of 5.0 or greater is considered to result in increased levels of annoyance where existing ambient noise levels are less than 60 dBA; in areas where the ambient noise level ranges from 60 to 65 dBA, increased levels of annoyance would be anticipated at increases of 3 dB, or greater. Therefore, a substantial increase in noise levels is defined as an increase of 5.0, or greater, where the noise levels, without project implementation, are less than 60 dBA; 3 dBA, or greater, where the noise level, without project implementation, ranges from 60 to 65 dBA. The rationale for these noise criteria is that as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause a substantial increase in annoyance.

As shown in **Table 3.7-9**, the Pilot Flying J project would result in noise level increases, generated by on-site sources, beyond 5 dBA at the residence to the south of the site on County Road 13. As there is no feasible mitigation available to reduce the increase in on-site noise levels, this impact would be **significant and unavoidable**.

Mitigation Measures

No feasible mitigation available.

Exposure to Groundborne Vibration (Standard of Significance 2)

Impact 3.7.3 Groundborne vibration levels associated with short-term construction and long-term operational activities would not exceed applicable groundborne vibration criterion at nearby land uses. This impact is considered to be **less than significant.**

This analysis uses the FTA vibration impact thresholds for sensitive buildings and residences. These thresholds are 85 VdB, which is the vibration level that is considered by the FTA to be acceptable only if there are an infrequent number of events per day as described in **Table 3.7-3**.

Construction activities would likely require the use of off-road equipment such as tractors, jackhammers, and haul trucks. The use of major groundborne vibration–generating construction equipment, such as pile drivers, is not anticipated to be required for the development of 44,000 square feet of new commercial building space or a travel center. Groundborne vibration levels associated with representative construction equipment are summarized in **Table 3.7-10**. Based on the vibration levels presented in the table, ground vibration generated by construction equipment would not be anticipated to exceed 85 VdB at 50 feet.

TABLE 3.7-10
REPRESENTATIVE VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate VdB	
	50 Feet	100 Feet
Large Bulldozer	81	75
Caisson Drilling	81	75
Loaded Trucks	80	74
Jackhammer	73	67
Small Bulldozer	52	46

Source: FTA 2006

Notes: The vibration levels at the off-site sensitive uses are determined with the following equation from the FTA Transit Noise and Vibration Impact Assessment, Final Report: Lv(D)=Lv(25 ft)–20log(D/25), where Lv = vibration level of equipment, D = distance from the equipment to the receiver, Lv(25 ft) = vibration level of equipment at 25 feet

Westside Annexation Area

Detailed construction schedules for the Westside Annexation Area are not currently known, as no development projects are proposed for this area at this time. However, depending on how future development proceeds, construction-generated groundborne vibrations associated with the future development potential within the Westside Annexation Area could potentially exceed the significance criteria of groundborne vibration impacts of 85 VdB (FTA 2006). This impact discussion assumes full growth potential within the Westside Annexation Area (44,000 square feet of new commercial building space).

The 1.7 acres of the Westside Annexation Area that would accommodate the potential 44,000 square feet of commercial building space are located adjacent to the northeast corner of County Road HH and County Road 13. The nearest structures include a barn approximately 75 feet to the west and a single-family residence approximately 88 feet to the south. Based on the vibration levels presented in **Table 3.7-10**, ground vibration generated by construction equipment would not be anticipated to exceed the threshold of 85 VdB at 50 feet. Since all off-site structures in the vicinity of the site are farther than 50 feet distant, the predicted vibration

levels at the nearest off-site structures would not exceed the minimum recommended criteria during construction.

In terms of long-term operations of the potential development in the Westside Annexation Area, the specific commercial use that could be potentially developed is not known at this time since no development projects are currently proposed. However, the primary source of ground vibration associated with commercial building operations would most likely be associated with on-site heavy-duty truck deliveries. Groundborne vibration levels associated with heavy-duty trucks are summarized in **Table 3.7-10**. Similar to construction activities, groundborne vibration levels typically associated with heavy-duty trucks during commercial operations would be approximately 80 VdB at 50 feet, which is not an exceedance of the minimum recommended criteria of 85 VdB. Since the nearest structures to the potential 44,000 square feet of commercial building space are all beyond 50 feet, the predicted vibration levels at the nearest off-site structures would not exceed the minimum recommended criteria during operations.

For the reasons described, this impact would be considered **less than significant.**

Pilot Flying J Project

Construction of the proposed travel center would be completed in one phase over an approximately 4.5-month time frame. Once construction is completed, all construction-generated groundborne vibration would cease. The nearest structures to the travel center site include a single-family residence 90 feet to the south on County Road 13, a gas station 180 feet to the north of the site, a residence 188 feet to the west, and a residence 195 feet to the northwest. Based on the vibration levels presented in **Table 3.7-10**, ground vibration generated by construction equipment would not be anticipated to exceed the threshold of 85 VdB at 50 feet. Since all off-site structures in the vicinity of the site are farther than 50 feet distant, the predicted vibration levels at the nearest off-site structures would not exceed the minimum recommended criteria during construction.

The primary source of ground vibration associated with the proposed travel center operations would be heavy-duty trucks. Groundborne vibration levels associated with heavy-duty trucks are summarized in **Table 3.7-10**. Similar to construction activities, groundborne vibration levels typically associated with heavy-duty trucks during travel center operations would be approximately 80 VdB at 50 feet, which is not an exceedance of the minimum recommended criteria of 85 VdB. Since the nearest structures to the proposed travel center are all beyond 50 feet, the predicted vibration levels at the nearest off-site structures would not exceed the minimum recommended criteria during operations.

For the reasons described, this impact would be considered **less than significant.**

Mitigation Measures

None required.

Exposure to Short-Term Construction Noise (Standard of Significance 4)

Impact 3.7.4 Activities associated with project construction would not result in the exposure of persons to or generation of noise levels in excess of the City of Orland's noise standards, as short-term construction noise is exempt from all noise level standards and construction is limited to daytime hours. This impact is considered **less than significant.**

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Although noise ranges are generally similar for all construction phases, the initial site preparation phase tends to involve the most heavy-duty equipment having a higher noise-generation potential. Noise levels associated with individual construction equipment are summarized in **Table 3.7-11.**

TABLE 3.7-11
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Typical Noise Level (dBA L_{max}) 50 Feet from Source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Vibrator	76
Crane, Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jackhammer	88
Loader	85
Truck	88
Paver	89
Pneumatic Tool	85
Roller	74
Saw	76

Source: FTA 2006

As depicted in **Table 3.7-11**, noise levels generated by individual pieces of construction equipment typically range from approximately 74 dBA to 89 dBA L_{max} at 50 feet (FTA 2006). Average-hourly noise levels associated with construction projects can vary, depending on the activities performed, reaching levels of up to approximately 83 dBA L_{eq} at 50 feet. Short-term increases in vehicle traffic, including worker commute trips and haul truck trips, may also result in temporary increases in ambient noise levels at nearby receptors.

Westside Annexation Area

During the construction of the potential development within the Westside Annexation Area, exterior noise levels resulting from construction could affect the nearest existing sensitive receivers in the vicinity. As previously stated, the 1.7 acres of the Westside Annexation Area that would accommodate the potential 44,000 square feet of commercial building space are

located at the northeast corner of County Road HH and County Road 13. The nearest receptor includes a single-family residence approximately 88 feet to the south on County Road 13. Additionally, another single-family house is located approximately 145 feet to the west.

The City's General Plan Noise Element establishes policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. For instance, the maximum allowable noise level for residential land uses under the City's General Plan Noise Element is 65 dBA. As depicted in **Table 3.7-11**, noise generated by individual equipment can reach levels of up to approximately 89 dBA at 50 feet. Based on the above noise levels and assuming an average noise attenuation rate of 6 dB per doubling of distance from the source center, predicted exterior average-hourly noise levels would be approximately 84 dBA at the nearest residence at County Road 13 and 80 dBA at the residence to the west. These average-hourly noise levels are above the City standard. However, City General Plan Noise Element Policy 6.1.I states that noise associated with construction activities is exempt from all noise level standards. This is because construction activity is temporary. In addition, Policy 6.1.J limits construction activities to the hours between 7 AM and 5 PM. For these reasons, short-term noise levels related to construction of the potential development within the Westside Annexation Area would be **less than significant**.

Pilot Flying J Project

As stated above, typical construction noise levels vary up to a maximum of 89 dBA at 50 feet from the construction site during the noisiest construction phases. During the construction of the proposed Pilot Flying J Travel Center, exterior noise levels resulting from construction could affect the nearest existing sensitive receivers in the vicinity. The nearest sensitive receptors to the travel center site include a single-family residence 90 feet to the south on County Road 13, a gas station 180 feet to the north of the site, a residence 188 feet to the west, and a residence 195 feet to the northwest. Based on the construction equipment noise levels depicted in **Table 3.7-11** and assuming an average noise attenuation rate of 6 dB per doubling of distance from the source center, predicted exterior average-hourly noise levels would be approximately 84 dBA, 78 dBA, 78 dBA, and 77 dBA at each of these uses, respectively. These predicted noise levels are above the City standard. However, as previously stated, City General Plan Noise Element Policy 6.1.I states that noise associated with construction activities is exempt from all noise level standards. In addition, Policy 6.1.J limits construction activities to the hours between 7 AM and 5 PM. For these reasons, short-term noise levels related to construction of the proposed travel center would be **less than significant**.

Mitigation Measures

None required.

3.7.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The geographic extent of the cumulative setting for noise consists of the project site and vicinity. Based on the noise measurement surveys conducted, ambient noise levels at the nearest residential land uses are primarily affected by vehicle traffic on nearby area roadways. To a lesser extent, occasional agricultural activities also contribute to the ambient noise environment. However, no major stationary sources of noise have been identified in the vicinity of the nearest noise-sensitive land uses. As a result, the primary factor for cumulative noise impact analysis is the consideration of future traffic noise levels along area roadways.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Traffic Noise Impacts

Impact 3.7.5 Long-term operation of the proposed project would result in a substantial contribution to cumulative noise levels. This impact would be considered **cumulatively considerable.**

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the potential development within the Westside Annexation Area, the Pilot Flying J Travel Center, and other projects in the project vicinity. Therefore, cumulative traffic-generated noise impacts have been assessed based on the contribution of both components of the proposed project to the future cumulative base traffic volumes in the project vicinity. The noise levels associated with cumulative base traffic volumes without the project and cumulative base traffic volumes with the project are identified in **Table 3.7-12**.

TABLE 3.7-12
PREDICTED INCREASES IN CUMULATIVE TRAFFIC NOISE LEVELS

Roadway Segment	L_{dn} at 75 Feet from Near-Travel-Lane Centerline[1]		Increase	Threshold	Impact
	Without Project Components	With Project Components			
Cumulative Conditions					
Newville Road – West of County Road HH	65.7	70.1	**4.4**	1.5	**Yes**
Newville Road (SR 32) – County Road HH to I-5 Southbound Ramp	67.4	73.4	**6.0**	1.5	**Yes**
Newville Road (SR 32) – I-5 Northbound Ramp to 9th Street	70.9	75.4	**4.5**	1.5	**Yes**
Newville Road (SR 32) – 9th Street to 8th Street	70.5	75.0	**4.5**	1.5	**Yes**
Newville Road (SR 32) – East of 8th Street	70.6	75.0	**4.4**	1.5	**Yes**
County Road HH – Newville Road to County Road 13	58.0	69.5	**11.5**	5.0	**Yes**

Notes:

1. *Traffic noise levels were calculated using the FHWA roadway noise prediction model based on data obtained from the traffic analysis prepared for this project (KD Anderson 2015).*
2. *For purposes of this analysis, a substantial increase in noise levels is defined as an increase of 5.0 dB, or greater, where the noise levels, without project implementation, are less than the City's "normally acceptable" noise standard. Where the noise level, without project implementation, equals applicable noise standards, an increase of 3.0 dB, or greater, would be considered a substantial increase. Where the noise level, without project implementation, exceeds applicable noise standards, an increase of 1.5 dB, or greater, would be considered a substantial increase.*

As shown in **Table 3.7-12**, implementation of the project under the cumulative project scenario would result in roadway noise level increases beyond noise level thresholds at all vicinity roadway segments. Because there is no feasible mitigation available to reduce the increase in roadway noise levels, this impact would be **cumulatively considerable** and **significant and unavoidable**.

Mitigation Measures

No feasible mitigation available.

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3.8 Transportation and Circulation

This section analyzes the existing transportation system in the vicinity of the proposed project and addresses the potential transportation and circulation impacts resulting from development of the proposed Westside Annexation Area and Pilot Flying J Travel Center project. This section is based on the traffic impact study (TIS) prepared by KD Anderson & Associates, Inc. (2015), included as **Appendix 3.8** of this Draft EIR.

3.8.1 EXISTING SETTING

EXISTING TRANSPORTATION SYSTEM

Existing Street and Highway System

The Pilot Flying J project will be served by several major roadways. Regional access is provided by Interstate 5 (I-5) and State Route (SR) 32, which link the site with the other Northern California communities to the north and south and with Orland to the east. Local access to the project site is provided via Newville Road and County Road HH. The following is a description of these facilities and of other roadways in the area of the project site.

Interstate 5 is a north–south four-lane freeway that adjoins western Orland. Interstate 5 is the primary route through California and begins at the US-Mexico border in Southern California and extends northerly to the California-Oregon border. Access to Interstate 5 is controlled and in the area of the project, interchanges are available at South Street (County Road 16), at SR 32-Newville Road, and at County Road 8. The most recent traffic volume counts published by the California Department of Transportation (Caltrans) indicate that I-5 carried an annual average daily traffic (AADT) volume of 24,000 to 25,000 vehicles per day through Orland. Trucks comprise 29 percent of the daily volume south of SR 32 and 25 percent north of SR 32, according to Caltrans data.

State Route 32 is an east–west route that connects with I-5 in Orland and SR 99 in Chico. The portion of SR 32 in Orland in the vicinity of I-5 is also known as Newville Road. In the area immediately east of the I-5 interchange, Newville Road (SR 32) is a two-lane/four-lane arterial with left turn lanes at intersections. The speed limit on SR 32 is 35 miles per hour (mph) east of I-5. According to the Caltrans website, the segment of Newville Road (SR 32) east of the interchange carried 5,600 AADT in 2013, with the volume rising to 10,800 AADT in the area east of the Sixth Avenue intersection. The State Route 32 Transportation Concept Report (TCR) identifies the current daily traffic volume east of I-5 at 9,752, which is more in line with recent peak-hour counts; this volume was used for analysis. Trucks comprise 12 percent of the daily traffic on SR 32 through Orland, according to Caltrans data.

The **Interstate 5/SR 32 (Newville Road) interchange** is a partial cloverleaf layout. Northbound and southbound off-ramps terminate at stop-controlled intersections on Newville Road. Separate on-ramps to I-5 are provided in both directions, which eliminates left turning traffic across mainline Newville Road. SR 32 has a two-lane crossing over I-5. Caltrans publishes daily traffic volume information for freeway ramps. The most recent data is summarized in **Table 3.8-1**.

TABLE 3.8-1
DAILY INTERSTATE 5 RAMP VOLUMES

Direction	Location	Daily Volume (2011)
Southbound	Off-ramp to Newville Road (SR 32)	1,650
	On-ramp from westbound Newville Road	1,150
	On-ramp from eastbound Newville Road	520
	Off-ramp to County Road 16	570
Northbound	On-ramp from South Street	740
	Off-ramp to Newville Road (SR 32)	1,400
	On-ramp from eastbound Newville Road (SR 32)	340
	On-ramp from westbound Newville Road (SR 32)	1,250

Source: KD Anderson 2015, Table 1

Newville Road west of I-5 is a Glenn County road that extends for roughly 7 miles to the Tehama County line near Black Butte Lake. This portion of Newville Road is designated a minor arterial in the Glenn County General Plan Circulation Element and an arterial in the City of Orland General Plan Circulation Element. Newville Road is a two-lane rural road west of I-5 with a posted speed limit of 35 mph. The most recent traffic volume counts made for the Orland General Plan Update Environmental Impact Report (EIR) in 2009 indicated that Newville Road carried 5,108 vehicles per day west of County Road HH.

County Road HH is a north–south street that runs southerly from an intersection on County Road 12 across Newville Road to its southern terminus on County Road 15 (Newport Road). County Road HH provides access to existing highway commercial, light industrial, and residential uses west of I-5. County Road HH is designated a minor collector in the Orland Circulation Element, which also indicates that County Road HH will be extended south to County Road 16 in the future. Today the portion of County Road HH near the project is a two-lane rural road. The rural prima facie speed limit of 55 mph is in effect on County Road HH south of Newville Road. The Orland General Plan Update EIR identifies the daily traffic volume on County Road HH as 945 vehicles per day in the area south of Newville Road.

The Newville Road/County Road HH intersection is controlled by stop signs on the northbound and southbound County Road HH approaches. There are no auxiliary turn lanes at this intersection.

County Road 13 is a two-lane local street that connects County Road HH with rural residential areas west of I-5. County Road 13 extends east from the County Road HH intersection along the Pilot Flying J site to a turnaround near the I-5 right-of-way. No daily traffic volume counts are available for County Road 13.

The County Road HH/County Road 13 intersection is controlled by stop signs on the eastbound and westbound County Road 13 approaches. There are no auxiliary turn lanes at this intersection.

Ninth Street is a north–south two-lane local street that extends south from an intersection on SR 32 just east of Interstate 5 to serve highway commercial properties near the interchange. Ninth Street continues to an intersection on Walker Street to provide access to residential area east of I-5. The prima facie 25 mph speed limit is in effect on Ninth Street.

Tehama Street is a two-lane minor collector that extends east from SR 32 to run parallel to and north of the state highway to its terminus on Woodward Avenue. The prima facie 25 mph speed limit is in effect on Tehama Street. The Orland General Plan Update EIR identifies the daily traffic volume on Tehama Street north of SR 32 as 1,562 vehicles per day.

The SR 32/Ninth Street/Tehama Street intersection is controlled by stop signs on the single-lane northbound Ninth Street and southbound Tehama Street approaches. This portion of SR 32 has been widened to provide separate left turn lanes, as well as an auxiliary westbound through lane and an auxiliary eastbound right turn lane.

Eighth Street is a two-lane north–south street that runs parallel to I-5. Eighth Street begins on an intersection on Date Street and continues southerly for more than a mile across SR 32 to its southern terminus on South Street. The speed limit on Eighth Street is posted at 25 mph. The Orland General Plan Update EIR identifies the daily traffic volume on Eighth Street north of South Street as 1,039 vehicles per day.

The SR 32/Eighth Street intersection is controlled by the first of several traffic signals on SR 32 through downtown Orland. The intersection is on the curvilinear section of SR 32, and auxiliary turn lanes have been added on the Eighth Street approaches to accommodate truck turns. Separate left turn lanes are provided on both SR 32 approaches.

South Street and County Road 16 are connected to I-5 at an interchange located 0.7 miles south of the Newville Road (SR 32) interchange.

Existing Traffic Conditions

To quantify existing traffic conditions, peak-hour intersection turning movement count data was collected for this analysis at the five existing study intersections. The count data was collected during the 7:00 AM to 9:00 AM morning peak period and the 4:00 PM to 6:00 PM evening peak period in October 2014. In addition, peak-hour traffic volume data was collected at the South Street/I-5 ramp intersection for use in evaluating I-5 freeway ramp operations.

Existing peak-hour traffic volume data, as well as current intersection traffic controls and intersection lane geometry, is presented in **Figure 3.8-1**.

Current Peak-Hour Traffic Conditions

Intersections: Current AM and PM peak-hour levels of service (LOS) were calculated at existing study intersections under existing conditions. The results of this analysis are presented in **Table 3.8-2**. The LOS calculation worksheets for existing conditions are presented in **Appendix 3.8.**

As shown in **Table 3.8-2**, all of the study intersections currently operate with peak-hour level of service that meets the City's minimum LOS D standard but also meets the Caltrans LOS C goal. No improvements at these intersections are needed.

Current traffic volumes at unsignalized study intersections were compared to peak-hour traffic signal warrant thresholds.

TABLE 3.8-2
EXISTING PEAK-HOUR INTERSECTION LEVELS OF SERVICE

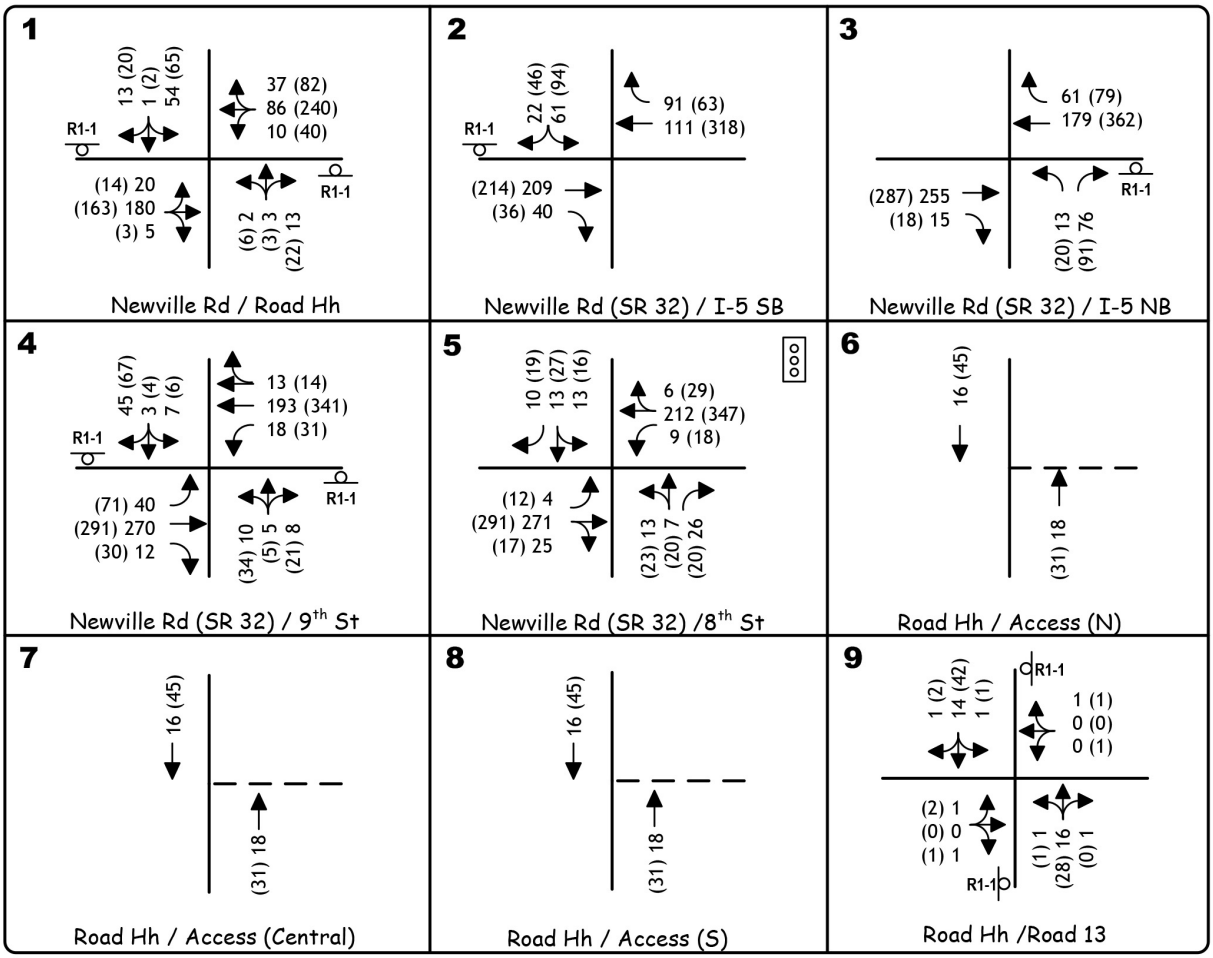
Intersection	Control	AM Peak Hour		PM Peak Hour		Warrants Met?
		Delay (seconds)	LOS	Delay (seconds)	LOS	
Newville Road/County Road HH	NB/SB Stop					No
NB approach		10.3	B	11.2	B	
SB approach		12.3	B	16.3	C	
EB left turn		7.5	A	8.0	A	
WB left turn		7.7	A	7.7	A	
Newville Road (SR 32)/SB I-5 ramps	SB Stop					No
SB approach		11.2	B	14.8	B	
Newville Road (SR 32)/NB I-5 ramps	NB Stop					No
NB approach		10.8	B	11.6	B	
Newville Road (SR 32)/Ninth St/Tehama St	NB/SB Stop					No
NB approach		13.4	B	17.9	C	
SB approach		10.7	A	11.9	B	
EB left turn		7.8	A	8.3	A	
WB left turn		7.9	A	8.0	A	
Newville Road (SR 32)/Eighth Street	Signal	6.8	A	8.3	A	n/a

Source: KD Anderson 2015, Table 5
Notes: LOS = level of service. Average delay presented in seconds of per vehicle.

Current Peak-Hour Conditions – Freeway Ramp Junctions: Freeway ramp junction level of service is predicated on the hourly mainline traffic volume as well as the volume of traffic on specific ramps. Peak-hour ramp volumes were identified from new traffic counts at ramp terminal intersections. Mainline weekday AM and PM peak-hour directional volumes were identified from Caltrans count station data. For this analysis, the most recent mainline data was reviewed, and the average of Tuesday, Wednesday, and Thursday counts completed in the month of May 2013 were used for ramp operational calculations. May data was selected as being representative of average conditions based on review of the Caltrans statewide monthly vehicle miles traveled report.

Table 3.8-3 identifies current levels of service at freeway ramp junctions on I-5. As shown, all operate at LOS A or B during the AM and PM peak hour.

T:_CS\Work\Orland, City of\Pilot Flying J Travel Center\Figures



Source: KD Anderson

Figure 3.8-1

Existing Traffic Volumes and Lane Configuration

PMC®

TABLE 3.8-3
EXISTING RAMP JUNCTION LEVELS OF SERVICE

Direction	Location	Type	AM Peak Hour		PM Peak Hour	
			Density (pc/ln/mi)	LOS	Density (pc/ln/mi)	LOS
Southbound	Newville Road off	Diverge	6.2	A	10.2	B
	WB Newville Road on	Merge	10.0	B	10.4	B
	EB Newville Road on	Merge	10.5	B	10.8	B
	Co Road 16 off	Diverge	9.4	A	9.7	A
Northbound	Co Road 16 on	Merge	9.6	A	11.8	B
	Newville Road off	Diverge	8.4	A	11.2	B
	EB Newville Road on	Merge	8.9	A	11.3	B
	WB Newville Road on	merge	9.5	A	11.9	B

Source: KD Anderson 2015, Table 6
Note: LOS = level of service

Roadway Segment Level of Service: Current daily traffic volumes and levels of service based on Orland General Plan thresholds are presented in **Table 3.8-4**. As shown, current daily volumes are indicative of LOS A conditions.

TABLE 3.8-4
EXISTING ROADWAY SEGMENT LEVELS OF SERVICE

Street	From	To	Classification	Lanes	Daily Volume	Level of Service
Newville Road (SR 32)	County Road HH	I-5 SB ramps	Arterial	2	7,200	A
	I-5 SB ramps	I-5 NB ramps		2	8,120	A
	I-5 NB ramps	9th Street		2	9,750	A
	9th Street	8th Street		2	8,290	A
County Road HH	Newville Road	County Road 15	Minor Collector	2	945	A

Source: KD Anderson 2015, Table 7

Alternative Transportation

Sidewalks

Concrete and asphalt sidewalks exist at various locations along most city streets but become less prevalent on Glenn County roads. As noted in **Table 3.8-5**, there are few sidewalks in the area west of I-5 although there is existing sidewalk on the north side of Newville Road (SR 32) across Interstate 5.

TABLE 3.8-5
SIDEWALK INVENTORY

Street	From	To	Side	Sidewalk
Newville Road	County Road HH	Southbound I-5 ramps	North	Partial
			South	No
	Southbound I-5 ramps	Northbound I-5 ramps	North	Yes
			South	No
	Northbound I-5 ramps	9th Street-Tehama Street	North	Yes
			South	Partial
	9th Street-Tehama Street	8th Street	North	Yes
			South	Yes
County Road HH	Newville Road	County Road 13	East	No
			West	No
	County Road 13	County Road 14	East	No
			West	No

Source: KD Anderson 2015, Table 2

Bicycle Facilities

Presently there are no formally designated bicycle lanes or bicycle facilities in Orland. However, the City understands the need to move people through the community. The City is planning multi-use pathways along Stony Creek, as well as multi-use pathways within the rights-of-way of undergrounded canals. Additionally, street widths can accommodate bicycle traffic in some areas and bicycle racks are available at schools and parks.

Public Transit

Bus service is provided to the City of Orland through Glenn Ride, which is a transit service provided by Glenn County. It is a fixed-route bus system with seven round trips every weekday and three round trips on Saturday from Willows to Chico. There are currently 14 bus stops in Orland. The stop closest to the proposed project is at the Ninth Street/Newville Road intersection (i.e., CVS Pharmacy and Burger King).

3.8.2 REGULATORY FRAMEWORK

STATE

California Department of Transportation

Caltrans is responsible for maintaining and operating I-5 and SR 32. In accordance with guidance from Caltrans District 3, methods described in the Guide for the Preparation of Traffic Impact Studies were used in this analysis. This document notes, "Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D' (see Appendix 'C-3') on State highway facilities . . ."

Therefore, for this analysis, LOS C and better are considered acceptable, and LOS D and worse are considered unacceptable at intersections along SR 32. The Guide for the Preparation of Traffic Impact Studies specifies application of these criteria to signalized intersections. The document does not specify a minimum acceptable level of service for unsignalized intersections. However, for this analysis, these criteria are also applied to unsignalized intersections.

LOCAL

City of Orland General Plan

The Orland General Plan seeks to address issues related to the movement of people and goods through and around the city. The purpose of this element is to provide an overview of the means of transport to, from, and within Orland and to address how these different methods can complement each other to make the city's circulation system work more efficiently and effectively.

City of Orland General Plan Circulation Element Policy 3.3.A identifies the minimum standard adopted by the City. Policy 3.3.A requires the construction of street and highway improvements to maintain an overall daily roadway LOS C with an AM and PM peak-hour roadway and intersection LOS D or better, unless other public health, safety, or welfare factors determine otherwise.

Further, Policy 3.2.I requires adequate emergency access and response. New developments in the city and Planning Area require circulation improvements that provide a second means of access for police, fire, and medical vehicles.

3.8.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance, which state that a project would have a significant transportation impact if it would:

1) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

2) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

5) Result in inadequate emergency access.

6) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

METHODOLOGY

This section is based on the traffic impact study prepared by KD Anderson (2015), included as **Appendix 3.8** of this Draft EIR. Traffic counts were taken at the study area intersections, and the projected traffic was compared to existing traffic to determine impacts. The level of service methodology described in the TIS was used to determine whether the project traffic would result in significant impacts. For intersections where impacts are identified, the City evaluated existing conditions to determine whether mitigation measures could result in a less than significant impact. The traffic analysis evaluated an Existing Plus Project condition as well as a Cumulative Project Condition at each of the study intersections.

Level of Service Definition and Calculation

To quantitatively evaluate traffic conditions and to provide a basis for comparison of operating conditions with and without traffic generated by the proposed project, levels of service were determined at study area intersections and at freeway ramp terminals.

Level of service is a quantitative measure of traffic operating conditions using letter grades "A" through "F" to characterize operating conditions at an intersection, on highways, and at freeway ramp terminals. LOS A through F represents progressively worsening traffic conditions. The characteristics associated with the various levels of service for intersections and freeway merge-diverge areas are presented in **Table 3.8-6**.

TABLE 3.8-6
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Freeway Ramp Terminal
A	Uncongested operations, all queues clear in a single-signal cycle. Delay ≤10.0 sec	Little or no delay. Delay ≤10 sec/veh	Density <10.0 pc/ln/mi
B	Uncongested operations, all queues clear in a single cycle. Delay >10.0 sec and ≤20.0 sec	Short traffic delays. Delay >10 sec/veh and ≤15 sec/veh	Density >10 and <20 pc/ln/mi
C	Light congestion, occasional backups on critical approaches. Delay >20.0 sec and ≤35.0 sec	Average traffic delays. Delay >15 sec/veh and ≤25 sec/veh	Density >20 and <28 pc/ln/mi
D	Significant congestions of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay >35.0 sec and ≤55.0 sec	Long traffic delays. Delay >25 sec/veh and ≤35 sec/veh	Density >28 and <35 pc/ln/mi
E	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay >55.0 sec and ≤80.0 sec	Very long traffic delays, failure, extreme congestion. Delay >35 sec/veh and ≤50 sec/veh	Density >35 pc/ln/mi
F	Total breakdown, stop-and-go operation. Delay >80.0 sec	Intersection blocked by external causes. Delay >50 sec/veh	Demand Exceeds Capacity

Source: KD Anderson 2015, Table 3

Levels of service were calculated for this study using the methodology contained in the 2010 Highway Capacity Manual. At signalized intersections and intersections controlled by four-way stop signs, the overall level of service for intersections is based on the average length of delays for all motorists at the intersection. At two-way stop-sign-controlled unsignalized intersections (or one-way stop T intersections), the level of service is based on the length of the average delay experienced by motorists on the worst single movement, which is typically a left turn made from the stop-sign-controlled approach to the intersection. It should be noted that overall intersection average level of service at unsignalized intersections is better, often much better, than the level of service for the worst single movement.

The level of service associated with freeway ramp terminals is described in terms of the vehicle density in the ramp influence area (i.e., passenger cars per lane per mile).

Level of service calculations for intersections and ramps specifically account for the presence of large trucks whose acceleration and deceleration characteristics differ from passenger vehicles. Both calculations include truck percentage as an input and reduce the theoretical facility

capacity accordingly to account for the presence of large vehicles. As noted later, these truck percentages were adjusted based under each scenario to reflect the addition of project trucks.

Level of Service Based on Roadway Segment Volume

The Orland General Plan Update EIR addressed level of service at a planning level on roadway segments based on daily traffic volume. The roadway segment level of service criteria identifies maximum daily traffic volume thresholds for each level of service grade. Thresholds are identified based on facility classification (i.e., arterial, major collector, minor collector, and local roadway) and the number of through travel lanes. The thresholds presented in the City of Orland General Plan Update EIR are shown in **Table 3.8-7**.

Traffic volumes vary substantially during a 24-hour period and at locations within roadway segments. As a result, level of service based on roadway segments daily volume is an inherently generalized analysis approach that is intended to approximate conditions at the most congested locations during the peak period of the day.

TABLE 3.8-7
LEVEL OF SERVICE THRESHOLDS FOR ROADWAY SEGMENTS BASED ON DAILY TRAFFIC VOLUME

Classification	Lanes	Maximum Daily Volume at LOS				
		A	B	C	D	E
Arterial	4	18,000	21,000	24,000	27,000	30,000
	2	9,000	10,500	12,000	13,500	15,000
Major Collector	2	7,620	8,890	10,160	11,430	12,700
Minor Collector	2	4,800	5,600	6,400	7,200	8,000
Local	2	2,700	3,150	3,600	4,050	4,500

Source: KD Anderson 2015, Table 4

Traffic Signal Warrants Procedures

Traffic signal warrants are a series of standards that provide guidelines for determining whether a traffic signal is appropriate. Signal warrant analyses are typically conducted at intersections of uncontrolled major streets and stop-sign-controlled minor streets. If one or more signal warrants are met, signalization of the intersection may be appropriate. However, a signal should not be installed if none of the warrants are met, since the installation of signals would increase delays on the previously uncontrolled major street, resulting in an undesirable increase in overall vehicle delay at the intersection. Signalization may also increase the occurrence of particular types of accidents. Therefore, if signals are installed where signal warrants are not met, the detriment of increased accidents and overall delay may be greater than the benefit in traffic operating conditions on the single worst movement at the intersection. Signal warrants, then, provide an industry-standard basis for identifying when the adverse effect on the worst movement is substantial enough to warrant signalization.

For the traffic analysis conducted for the traffic impact study, available data are limited to AM and PM peak-hour volumes. Thus, unsignalized intersections were evaluated using the Peak Hour Warrant (Warrant Number 3) from the Caltrans document Manual on Uniform Traffic Control Devices for Streets and Highways (the FHWA's MUTCD 2010 Edition, as amended for use in

California) (MUTCD). Urban analysis criteria were employed based on the speed limit on Newville Road-SR 32 (i.e., 35 mph).

PROJECT IMPACTS AND MITIGATION MEASURES

Exceed Level of Service Standards – Existing Plus Project (Standards of Significance 1 and 2)

Impact 3.8.1 The proposed project would result in significant increases in level of service at the study intersections. This increase would result in a **potentially significant** impact.

Westside Annexation Area

As stated previously, there are no proposals for development in the Westside Annexation Area at this time. Currently, all roadways in the Westside Annexation Area operate at acceptable levels of service. It is anticipated that the four parcels in the Westside Annexation Area that are fully developed are not expected to change. Therefore, these four parcels would not increase the amount of traffic on the roadway network over existing conditions. If, at some time in the future, the 8.5-acre parcel, which has a prezoning of Open Space, was proposed for development not consistent with the allowed uses for Open Space, the parcel would be required to complete an environmental review analysis per CEQA and City regulations. During this process, the potential for exceeding the LOS standards would be analyzed on a project-specific level.

For the 1.7-acre Parcel B of the Westside Annexation Area, based on TIS Table 11 (see **Appendix 3.8** for this table), this parcel may result in 1,907 daily trips, including 44 AM peak-hour trips and 164 PM peak-hour trips. However, since no actual project is proposed for this parcel, the vehicle trips presented here are purely speculative and do not represent actual vehicle trips for a proposed project. Any future development of this parcel, as well as the other parcels in the Westside Annexation Area, would be required to pay the City's Transportation Development Impact Fee based on their fair share for roadway improvements.

As no developments are proposed for the Westside Annexation Area and any future development would be required to pay the City's impact fee and/or make the necessary improvements to the local roadway system based on their impacts, the Westside Annexation Area would have a **less than significant** impact on the roadway system.

Pilot Flying J Project

Access: The Pilot Flying J Travel Center would take access to both County Road HH and County Road 13. Two driveways on County Road HH immediately south of Newville Road would provide access for passenger cars. Most trucks would enter from County Road 13 and exit at a driveway on County Road HH that is located 500 feet south of the Newville Road intersection.

Because no plan exists for development of the Westside Annexation Area, access assumptions were made for the parcel that has been assumed to be developed under cumulative conditions. The Pilot Flying J remainder parcel has been assumed to take access on County Road 13 east of County Road HH.

Trip Generation: The number of vehicle trips expected to be generated by development of the Pilot Flying J Travel Center and the Westside Annexation Area have been estimated based on trip generation rates applicable to the nature and size of project land uses. Information gathered at a similar facility or documented in approved EIRs has also been used and

compared to forecasts based on trip generation rates published in the ITE Trip Generation Manual, 9th Edition. A complete discussion of how the trip generation was determined for the Pilot Flying J project using both observed generation rates and rates in the ITE manual is available in the TIS completed for the project (see **Appendix 3.8**).

Rates Based on Observations: Table 3.8-8 presents information regarding traffic observations of other Pilot Flying J Travel Centers in California. Data for the Pilot Flying J Travel Center on I-5 in Dunnigan was collected for this study, while data relating to the travel center in San Joaquin County at the I-5/SR 12 interchange was obtained from the Dixon Pilot Flying J Travel Center EIR. Because a variety of parameters might be indicators of potential trip generation, rates have been calculated based on the total building square footage, the number of fueling positions, and the daily traffic volume on the adjoining highway. These results were then averaged to produce the forecast for the Orland project. Under this approach, the new travel center in Orland is projected to generate 322 trips in the AM peak hour and 313 trips in the PM peak hour.

TABLE 3.8-8
TRIP GENERATION ESTIMATE BASED ON OBSERVATIONS – PILOT FLYING J PROJECT

Land Use	Quantity	Trips Rates							
		AM Peak Hour				PM Peak Hour			
		Autos		Trucks		Autos		Trucks	
		In	Out	In	Out	In	Out	In	Out
AM = 322 trips PM = 313 trips	12.4 ksf	111	113	86	82	120	128	63	60
	24 fueling positions	114	115	89	83	124	129	78	61
	25,000 ADT	47	45	40	38	54	56	39	29
	Average	*91*	*91*	*72*	*68*	*99*	*104*	*60*	*50*
Daily 4,145 trips	Less pass-by trips	**4**	**4**	**2**	**1**	**4**	**4**	**1**	**1**
	Net New Trips	**87**	**87**	**70**	**67**	**95**	**100**	**59**	**51**

Source: KD Anderson 2015, Table 9

The peak-hour trip generation estimates based on observation of similar uses have been employed for this analysis. Because a similar comparison based on daily trip generation is not available, it is necessary to interpolate a daily trip generation forecast. This analysis assumes that the relationship between peak-hour and daily trip generation that was identified based on ITE rates would also be applicable for the observed traffic volumes. Review of Table 11 (see **Appendix 3.8** for this table) indicates that the daily trip generation forecast was 6.73 times the sum of the AM and PM peak-hour forecasts. Assuming this relationship is applicable, the Orland Pilot Flying J project would be expected to generate 4,275 daily trips (i.e., 6.73 times the sum of 322 and 313). Of that total, 4,145 trips would be considered to be "new" to the local area of the project as shown in **Table 3.8-8**.

Trip Distribution: The geographic distribution of project-related trips used in this analysis is based on consideration of the nature of the proposed uses and in the case of the Westside Annexation Area, trip distribution patterns assumed in the Orland General Plan Update EIR traffic study.

As a regional travel center, many of the trips associated with the Pilot Flying J project will be drawn from the stream of traffic passing the site on I-5 or SR 32. Truck traffic is expected to be drawn primarily from vehicles that are already part of the 25 percent of current daily traffic on

Interstate 5. Truck trips could also be drawn from the traffic on SR 32 and to a lesser extent from the agricultural areas west of the site. Automobile trips would also be expected to be drawn from existing traffic on state highways, but a share of the project's automobile traffic may originate in Orland.

Under normal conditions, the trips associated with retail uses are divided between "primary," "diverted linked," and "pass-by" trips. Primary or "new" trips represent those trips specifically made for the purpose of visiting the site. These trips would affect the project access as well as the local and regional circulation system. Pass-by trips are those made as part of another trip by patrons who simply turn into the project. Pass-by trips would not affect the regional circulation system. Diverted linked trips are those that already occur on part of the regional circulation system but may use local streets to reach the project. In this case, trips drawn from existing traffic on I-5 to the project are diverted linked trips.

Because the volume of traffic on Newville Road and County Road HH is low, it has been assumed that the share of the project trips destined to the west and south on those streets are "pass-by" from those streets. It has been assumed that the project's trips drawn from traffic on Interstate 5 are diverted linked trips that would be new to the local street system. However, the project would not increase the volume of traffic on I-5.

Table 3.8-9 presents the assumptions made regarding the directional distribution of Pilot Flying J project trips.

TABLE 3.8-9
PROJECT TRIP DISTRIBUTION

Direction	Route	Percentage	
		Trucks	Automobiles
North	Interstate 5	44%	30%
	County Road HH	0%	2%
South	Interstate 5	44%	30%
	County Road HH	0%	4%
	Ninth Street	0%	2%
	Eighth Street	0%	4%
East	Tehama Street	0%	4%
	Newville Road (SR 32) beyond 8th Street	10%	20%
West	via Newville Road (pass-by trips)	2%	4%
Total		**100%**	**100%**

Source: KD Anderson 2015, Table 12

Trip Assignment: The trips generated by the Pilot Flying J Travel Center were assigned to the study area street system based on the location of site access and the regional distribution patterns noted previously. **Figure 3.8-2** presents the resulting project trip assignment.

Traffic Operations Analysis

Traffic volumes associated with the operation of the Pilot Flying J project were estimated by superimposing project trips onto current background traffic. **Figure 3.8-3** presents Existing Plus Project AM and PM peak-hour traffic volumes.

Conclusion

Peak-Hour Intersection Level of Service: Resulting Existing Plus Project peak-hour levels of service are presented in **Table 3.8-10**. In each case, the existing truck percentage on each approach has been updated to reflect the contribution of trucks associated with the proposed project, and new truck percentages were input to the LOS calculations. The LOS calculation worksheets for Existing Plus Project conditions are presented in **Appendix 3.8.**

As shown in **Table 3.8-10**, the addition of project-generated traffic results in delays on the southbound County Road HH approach that are indicative of LOS F in the PM peak hour. This level of service exceeds the City's LOS D minimum. Measures to improve the level of service at this intersection were reviewed. Installing an all-way stop would produce an overall level of service of LOS B at the intersection.

Conditions at all other locations will satisfy the City's LOS D minimum and Caltrans LOS C minimum.

Existing Plus Project Peak-Hour Conditions – Freeway Ramp Junctions: Table 3.8-11 identifies current and Existing Plus Project levels of service at freeway ramp junctions on I-5. As shown, all operate at LOS A or B during the AM and PM peak hours. Because these conditions satisfy the minimum LOS C goal, the project's impact to ramp junctions is not significant.

Roadway Segment Level of Service: Table 3.8-12 presents the sum of existing and project daily volumes on study area streets. These volumes have been compared to the level of service thresholds outlined in the General Plan Update EIR, and resulting levels of service are shown. As indicated, the addition of project trips does not result levels of service that exceed the City's LOS C minimum standard. Because projected conditions satisfy the minimum standard, the project's impact is not significant.

Traffic Signal Warrants: Existing Plus Project traffic volumes have been compared to peak-hour warrant requirements. None of the study intersections carry volumes that would satisfy peak-hour warrant requirements.

Based on the analysis discussed above, one intersection would exceed level of service thresholds as a result of implementation of the Pilot Flying J project. The addition of project-generated automobile and truck traffic to the adjacent street system will result in the Newville Road/County Road HH intersection operating with LOS F conditions to the southbound County Road HH approach. Because LOS F exceeds the City's minimum LOS D standard, this is a **potentially significant** impact.

Mitigation Measures

MM 3.8.1 Prior to project occupancy, the project applicant shall install an all-way stop at the Newville Road/County Road HH intersection. The intersection is projected to operate with a level of service that satisfies the City's LOS D minimum with the installation of an all-way stop.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Planning Department*

Implementation of mitigation measure **MM 3.8.1** would reduce the project impacts to the Newville Road/County Road HH intersection to **less than significant**.

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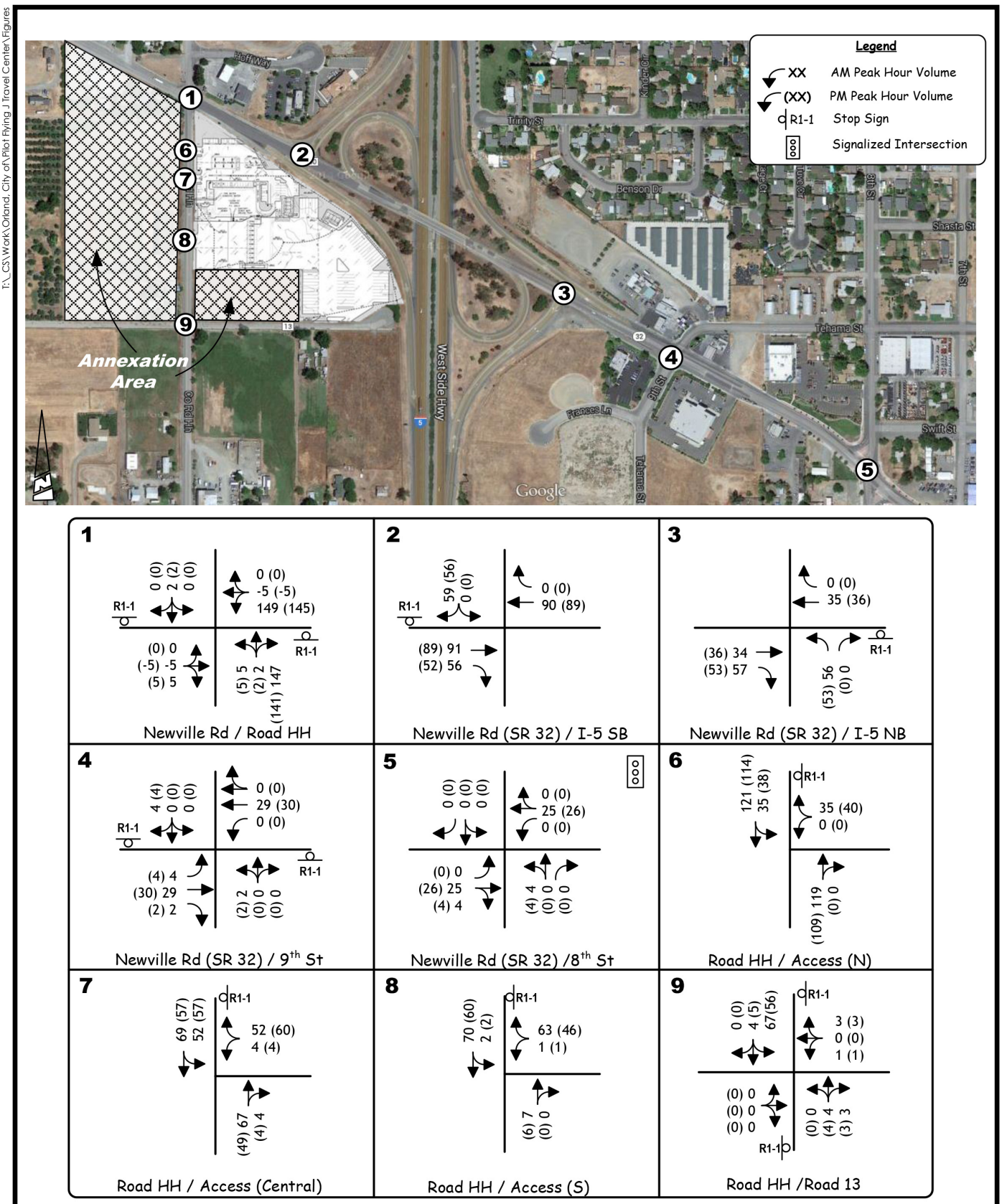

Source: KD Anderson

Figure 3.8-2

Project Only Traffic Volumes and Lane Configurations

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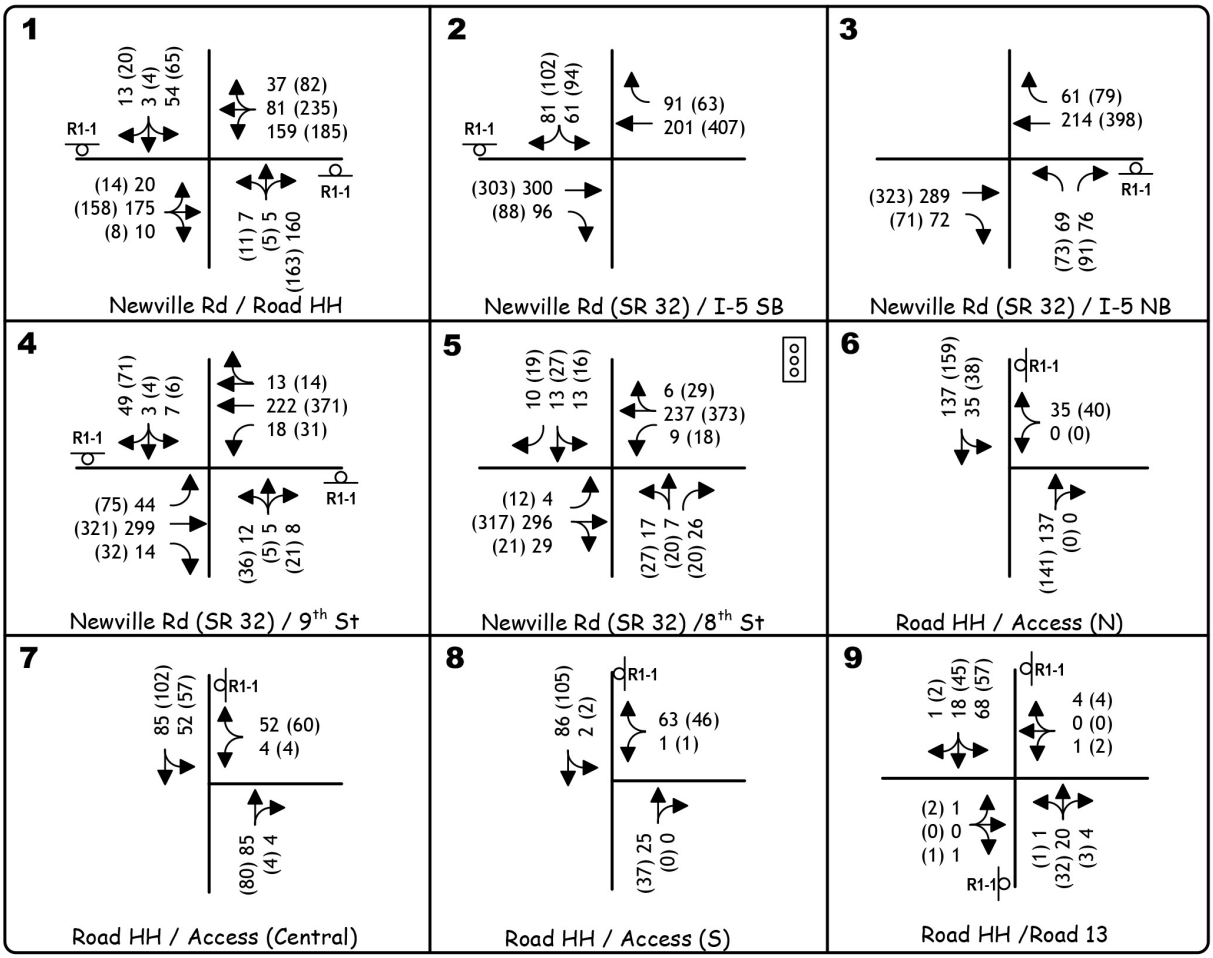

Source: KD Anderson

Figure 3.8-3

Existing Plus Project Traffic Volumes and Lane Configurations

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TABLE 3.8-10
EXISTING PLUS PILOT FLYING J PROJECT – PEAK-HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour				PM Peak Hour				Warrants Met?
		Existing		Existing Plus Project		Existing		Existing Plus Project		
		Average Delays (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	Average Delay (sec/veh)	LOS	
Newville Road/County Road HH										
NB approach		10.3	B	12.8	B	11.2	B	13.4	B	
SB approach	NB/SB Stop	12.3	B	29.7	D	16.3	C	**52.1**	**F**	No
EB left turn		7.5	A	7.5	A	8.0	A	8.0	A	
WB left turn		7.7	A	8.7	A	7.7	A	8.5	A	
All-Way Stop with EB-WB left turn lanes and NB right turn lane				10.7	B			12.9	B	No
Newville Road (SR 32)/SB I-5 ramps SB Approach	SB Stop	11.2	B	13.5	B	14.8	B	20.7	C	No
Newville Road (SR 32)/NB I-5 ramps NB approach	NB Stop	10.8	B	13.1	B	11.6	B	15.2	C	No
Newville Road (SR 32)/9th St/Tehama St										
NB Approach		13.4	B	14.5	B	17.9	C	19.	C	No
SB Approach	NB/SB Stop	10.7	B	11.0	B	11.9	B	12.3	B	
EB Left turn		7.8	A	7.9	A	8.3	A	8.4	A	
WB Left turn		7.9	A	8.0	A	8.0	A	8.1	A	
Newville Road (SR 32)/Eighth Street	Signal	6.3	A	7.0	A	8.3	A	8.6	A	n/a
County Road HH/North Access	WB Stop	—	—	9.2	A	—	—	9.2	A	No
County Road HH/Central Access	WB Stop	—	—	9.2	A	—	—	9.3	A	No
County Road HH/South Access	WB Stop	—	—	9.8	A	—	—	9.8	A	No
County Road HH/County Road 13	EB/WB Stop	—	—	9.7	A	—	—	9.7	A	No

Source: KD Anderson 2015, Table 13
Notes: LOS = level of service. Average delay presented in seconds of per vehicle
Bold *values exceed the minimum standard.*
Bold highlighted *are a project-related significant impact.*

TABLE 3.8-11
EXISTING PLUS PILOT FLYING J PROJECT – RAMP JUNCTION LEVELS OF SERVICE

Direction	Location	Type	AM Peak Hour				PM Peak Hour			
			Existing		Existing Plus Project		Existing		Existing Plus Project	
			Density (pc/ln/mi)	LOS	Density (pc/ln/mi)	LOS	Density (pc/ln/mi)	LOS	Density (pc/ln/mi)	LOS
Southbound	Newville Road off	Diverge	6.2	A	9.0	A	10.2	B	10.3	B
	WB Newville Road on	Merge	10.0	B	9.6	A	10.4	B	10.0	B
	EB Newville Road on	Merge	10.5	B	10.6	B	10.8	B	10.9	B
	Co Road 16 off	Diverge	9.4	A	9.5	A	9.7	A	9.8	A
Northbound	Co Road 16 on	Merge	9.6	A	9.7	A	11.8	B	12.2	B
	Newville Road off	Diverge	8.4	A	8.5	A	11.2	B	11.3	B
	EB Newville Road on	Merge	8.9	A	9.1	A	11.3	B	11.4	B
	WB Newville Road on	Merge	9.5	A	9.6	A	11.9	B	12.0	B

Source: KD Anderson 2015, Table 14

TABLE 3.8-12
EXISTING PLUS PILOT FLYING J PROJECT – ROADWAY SEGMENT LEVELS OF SERVICE

Street	From	To	Class	Lanes	Existing		Existing Plus Project		
					Daily Volume	Level of Service	Daily Volume		Level of Service
							Project	Total	
Newville Road (SR 32)	County Road HH	I-5 SB ramps	Arterial	2	7,200	A	3,925	11,125	C
	I-5 SB ramps	I-5 NB ramps		2	8,120	A	2,425	10,545	C
	I-5 NB ramps	9th Street		2	9,750	A	945	10,695	C
	9th Street	8th Street		2	8,290	A	790	9,080	B
County Road HH	Newville Road	County Road 13	Minor Collector	2	945	A	4,115	5,060	B
	County Road 13	County Road 15		2	945	A	160	1,105	A

Source: KD Anderson 2015, Table 15

Change in Air Traffic Patterns that Results in Substantial Safety Risks (Standard of Significance 3)

Impact 3.8.2 The proposed project would not result in a change of air traffic patterns that lead to substantial safety risks. **No impact** would occur.

Westside Annexation Area & Pilot Flying J Project

Neither the Westside Annexation Area nor the Pilot Flying J site is located within an airport land use plan. The closest airport, Haigh Field, is located approximately 3.5 miles southeast of the Pilot Flying J project site. The Westside Annexation Area and the Pilot Flying J site are not located within the airport's safety areas as shown on Map 2 of the Comprehensive Airport Land Use Plan for the Orland Haigh Field Airport (GCALUC 1991, p. 10). Thus, **no impact** would occur in this regard.

Mitigation Measures

None required.

Substantially Increase Hazards Due to a Design Feature or Incompatible Uses (Standard of Significance 4)

Impact 3.8.3 Implementation of the proposed project may result in increased traffic hazards due to the additional of large volumes of automobile and truck traffic. This would be a **potentially significant** impact.

Westside Annexation Area

As stated previously, there are no proposals for development in the Westside Annexation Area at this time. Merely annexing the Westside Annexation Area would not change the design of existing roadways or substantially increase roadway hazards. Thus, **no impact** would occur for this issue area.

Pilot Flying J Project

The adequacy of the study area circulation system has been evaluated with regard to safety issues:

1. Need for left turn lane channelization on Newville Road at County Road HH
2. Truck turning requirements

Left Turn Channelization. The American Association of State Transportation and Highway Officials (AASHTO) has identified guidelines for the installation of left turn lanes in their publication "A Policy on Geometric Design of Highways and Streets." These guidelines, which are presented as Exhibit 9-75 in the publication and shown as **Table 3.8-13,** base the need for a left turn lane on the volume of traffic on the mainline road and the relative percentage of that traffic which turns. These criteria are applicable to intersections where the major street traffic proceeds freely and side street traffic is controlled by stop signs.

As noted in **Table 3.8-13**, the current combination of advancing and opposing volumes occurring during the PM peak hour traffic falls below the level that would justify a separate left turn lane. However, with the addition of project trips, the combination of increased westbound

traffic and the large percentage of left turns (37 percent) justifies a separate left turn lane on Newville Road. Review of the traffic volumes at project driveways on County Road HH indicates that a separate southbound left turn lane is not required.

TABLE 3.8-13
TRAFFIC VOLUMES JUSTIFYING LEFT TURN LANES

Opposing Volume (veh/hr)	Advancing Volume (veh/hr)			
	5% Left Turns	10% Left Turns	20% Left Turns	30% Left Turns
40-mph operating speed				
800	330	240	180	160
600	410	305	225	200
400	510	380	275	245
200	640	470	350	305
185	—	—	—	**507**
180	720	**362**		—
100		515	390	340
50-mph operating speed				
800	280	210	165	135
600	350	260	195	170
400	430	320	240	210
200	550	400	300	270
100	615	445	335	295
60-mph operating speed				
800	230	170	125	115
600	290	210	160	140
400	365	270	200	175
200	450	330	250	215
100	505	370	275	240

Source: KD Anderson 2015, Table 16
*Notes: **Bold** = Existing PM peak hour at Newville Road/County Road HH.*
Bold highlighted *= Existing Plus Project PM peak hour at Newville Road/County Road HH.*

Truck Turning Requirements: These issues are important with regard to truck circulation. The project will result in full size trucks turning (STAA)[1] into and out of the site via the Newville Road/County Road HH intersection. Depending on the design, widening Newville Road to provide a westbound left turn lane may reduce the area available for truck turning from westbound Newville Road onto northbound County Road HH. This issue will need to be reviewed when final plans are drawn. Creating an all-way stop at the Newville Road/County Road HH intersection will result in the need to accommodate truck turns on each approach when a vehicle may concurrently be waiting on the other approaches. The turning requirements of large trucks will need to be reviewed when final plans are prepared.

[1] Surface Transportation Assistance Act of 1982 allows large trucks, referred to as STAA trucks to operate on routes that are part of the National Network.

Conclusion

Impact to Safety Based on Left Turn Conflicts at Newville Road/County Road HH Intersection: The projected traffic volume through the intersection under Existing Plus Project conditions satisfies MUTCD guidelines for determining the need for a separate westbound left turn lane. This is considerer a **potentially significant** impact.

Impact to Safety Based on Truck Turning: The project will add truck traffic to County Road HH, to the Newville Road/County Road HH intersection, and to the County Road HH/County Road 13 intersection. Without improvements, trucks turning in this area will leave the pavement or conflict with vehicles in opposing lanes. This is considered a **potentially significant** impact.

Impact to Pedestrian Safety: Development of the project will result in pedestrians walking between the site and the balance of Orland east of I-5. Because the sidewalk on the Newville Road overcrossing is on the north side of the road, pedestrians will be crossing Newville Road at various locations. This is considered a **potentially significant** impact.

Mitigation Measures

MM 3.8.3a Prior to project occupancy, the project applicant shall be responsible for widening Newville Road to provide left turn lanes to the satisfaction of the City Engineer and City of Orland roadway standards.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

Implementation of mitigation measure **MM 3.8.3a** would reduce potential safety-related impacts to the Newville Road/County Road HH intersection to a **less than significant** level.

MM 3.8.3b Prior to project occupancy, the project applicant shall be responsible for widening County Road HH and the Newville Road/County Road HH and County Road HH/County Road 13 intersections to accommodate the turning requirements of STAA trucks. These improvements may result in the creation of a separate northbound right turn lane on County Road HH approaching Newville Road and/or a separate southbound left turn lane on County Road HH approaching County Road 13. These improvements shall be designed and constructed to the satisfaction of the City Engineer.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

Implementation of mitigation measure **MM 3.8.3b** would reduce potential truck turning safety-related impacts to County Road HH, to the Newville Road/County Road HH intersection, and to the County Road HH/County Road 13 intersection to a **less than significant** level.

MM 3.8.3c Prior to project occupancy, the project applicant shall incorporate a designated pedestrian crossing into improvements to the Newville Road/ County Road HH intersection.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

Implementation of mitigation measure **MM 3.8.3c** would reduce potential safety-related impacts to persons crossing Newville Road and County Road HH adjacent to the site to a **less than significant** level.

Emergency Access (Standard of Significance 5)

Impact 3.8.4 The proposed project would provide adequate emergency access. **No impact** would occur.

Westside Annexation Area

The area currently benefits from a network of roadways that provide complete access around the area. Full access to the Westside Annexation Area is currently provided by Newville Road and County Road HH. The main thoroughfare in the Westside Annexation Area is Newville Road. It would be most likely used as the main evacuation route connecting to Interstate 5 for residents in the general area in an emergency. As stated previously, there are no proposals for development in the Westside Annexation Area at this time. Thus, **no impact** would occur for this issue area.

Pilot Flying J Project

As with the Westside Annexation Area, access to the Pilot Flying J project site would be provided by Newville Road and County Road HH. The main thoroughfare in the Westside Annexation Area is Newville Road. It would be most likely used as the main evacuation route connecting to Interstate 5 for residents in the general area in an emergency. The Pilot Flying J project would not decrease the ability to use Newville Road.

Project site access would be provided by three driveways on County Road HH and one driveway on County Road 13. These driveways and the surrounding road network would provide adequate emergency access to the site. Therefore, **no impact** would occur.

Mitigation Measures

None required.

Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities (Standard of Significance 6)

Impact 3.8.5 The proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks). **No impact** would occur.

Westside Annexation Area & Pilot Flying J Project

Currently, the City does not have a bicycle or trails plan. All bicycle and pedestrian facilities are guided by policies and programs in the General Plan. For example, Policy 3.8.A requires adequate sidewalks to be constructed in connection with street construction work in the city.

Policy 3.8.B requires subdivisions to include designs that promote pedestrian circulation in a safe and efficient manner, and Policy 3.8.C requires bicycle lanes to be established where feasible along major and minor collectors in newly developing areas.

The proposed Pilot Flying J Travel Center includes the reconstruction of County Road HH and County Road 13 adjacent to the site. For those areas of the site that directly border these streets, the project will be required to add curbs, gutters, and sidewalks. Additionally, mitigation measure **MM 3.8.3c** requires the project applicant to incorporate a designated pedestrian crossing into improvements to the Newville Road/County Road HH intersection. These improvements will assist in the creation of pedestrian pathways adjacent to the site.

Bus service is provided to the City of Orland through Glenn Ride. This system provides seven round trips every weekday and three round trips on Saturday from Willows to Chico. There are currently 14 bus stops in Orland.

These transit options would remain intact and not otherwise be affected by the project. Therefore, impacts related to existing alternative transportation would not result from the project, and the proposed project would not conflict with adopted policies, plans, or programs supporting alternative transportation. Therefore, **no impact** would occur in terms of alternative transportation.

Mitigation Measures

None required.

3.8.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

This report section describes the cumulative impacts of the proposed project in the context of the Orland General Plan. The text that follows describes the approach used to forecast future cumulative traffic volumes under No Project and Plus Project conditions.

Methodology/Assumptions

The Orland General Plan Update EIR traffic study included creation of a local traffic assignment model to address the overall effect of community development and through traffic increases on state highways. For this analysis, this tool was reviewed to identify assumptions regarding regional through traffic and development on the subject site.

State Highways. Table 3.8-14 identifies future traffic volume forecasts for state highways that are available from recent Caltrans documents.

TABLE 3.8-14
REGIONAL TRAFFIC VOLUME GROWTH TRENDS

Facility	From	To	Daily Traffic Volume		Annual Growth Rate	Factor
			Current	Future		
Interstate 5[1]	SR 162	SR 32	24,500	42,000	3.9%	1.71
	SR 32	Tehama County line	24,000	38,425	3.4%	1.60
SR 32[2]	I-5	6th Street	9,752	14,720	2.1%	1.51

Source: KD Anderson 2015, Table 17
Notes:
1. Source: I-5 TCR 9/2010 forecast for 2027
2. Source: SR 32 TCR, 8/2014 forecast for 2034

The Orland General Plan Update EIR did not address traffic volumes on mainline Interstate 5, and the forecasts contained in the I-5 TCR have been employed for this analysis. The General Plan traffic model did account for through traffic growth on SR 32, and review of the forecasts included in that document reveal a future (Year 2028) volume forecast of 17,756 vehicles per day in the area east of I-5. It is important to note that this forecast was predicated on an existing volume of 5,600 AADT, rather than the currently reported volume of 9,752.

Land Use: The General Plan Update EIR traffic model assumed development would occur at various locations throughout Orland over the life of the General Plan. The following list summarizes land use development assumed in that study:

- 1,209 single-family dwelling units
- 192 multiple-family dwelling units
- 290,610 building square feet of retail commercial uses
- 8.90 acres of office land use
- 61.97 acres of light industrial/commercial use
- 23.31 acres of heavy industrial use

The General Plan Update EIR traffic study made assumptions regarding development in the area west of I-5. A total of 8.3 acres of commercial development was assumed in the area south of Newville Road and north of County Road 14. This development was in the area of the Pilot Flying J site and Westside Annexation Area.

For this analysis, two land use scenarios were evaluated:

1. No development on project site but General Plan EIR assumptions elsewhere in Orland
2. Buildout of Pilot Flying J plus 44,400 square feet of commercial development on the 1.7-acre Parcel B of the Westside Annexation Area, but no development on the Westside Annexation Area properties west of County Road HH and General Plan EIR assumptions elsewhere

Traffic Volume Forecasts

Traffic volume forecasts were created for the two cumulative scenarios using the General Plan Update EIR traffic model. **Figure 3.8-4** presents the Cumulative No Project conditions at study area intersections, while **Figure 3.8-5** presents the peak-hour volumes under Cumulative Plus Project conditions.

Mainline weekday peak-hour volumes were also developed based on current traffic volume and the growth rates identified for state highways in **Table 3.8-14**. The resulting volumes are shown in **Table 3.8-15**.

TABLE 3.8-15
MAINLINE INTERSTATE 5 WEEKDAY PEAK-HOUR VOLUMES

Location	Direction	Existing Plus Project				Cumulative Plus Project			
		AM		PM		AM		PM	
		Existing	Plus Project	Existing	Plus Project	No Project	Plus Project	No Project	Plus Project
North of SR 32	southbound	611	620	731	745	1,100	1,130	1,195	1,225
	Northbound	553	560	815	830	1,045	1,085	1,375	1,385
County Road 16 to SR 32	southbound	659	670	690	700	1,125	1,160	1,180	1,205
	northbound	566	580	829	845	970	1,005	1,420	1,455

Source: KD Anderson 2015, Table 18
Note: Existing volumes are based on the average of Tuesday, Wednesday, Thursday peak volume from 7:00 to 9:00 AM and from 4:00 to 6:00 PM for May 1, 2013, to May 31, 2013, at stations 30950 and 30920.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Year 2028 Plus Project Impacts to Traffic Volumes (Standards of Significance 1 and 2)

Impact 3.8.6 Implementation of the proposed project, along with other traffic generated by existing and future development in the project area in Year 2028, would increase traffic in the project area. This is a **cumulatively considerable** impact.

Future Levels of Service

Intersection Levels of Service: Projected levels of service at study area intersections with and without the project are noted in **Table 3.8-16**. As indicated, all of the unsignalized intersections on Newville Road/SR 32 are projected to operate with side street levels of service that exceed the City's LOS D standard, with and without the proposed project. The project's trips will exacerbate conditions that are forecast to be deficient, and the project's cumulative impact is significant.

Measures to improve forecast conditions were evaluated and the results noted. As indicated, at the Newville Road/County Road HH intersection, the improvements noted under Existing Plus Project conditions (i.e., all-way stop and left turn lane) would deliver LOS C under cumulative plus project conditions. Thus, it may not be necessary to install a traffic signal at this location unless coordinated operation of multiple signalized intersections is required. Review of the City's

existing traffic impact mitigation fee program indicates that a traffic signal at this location is currently included.

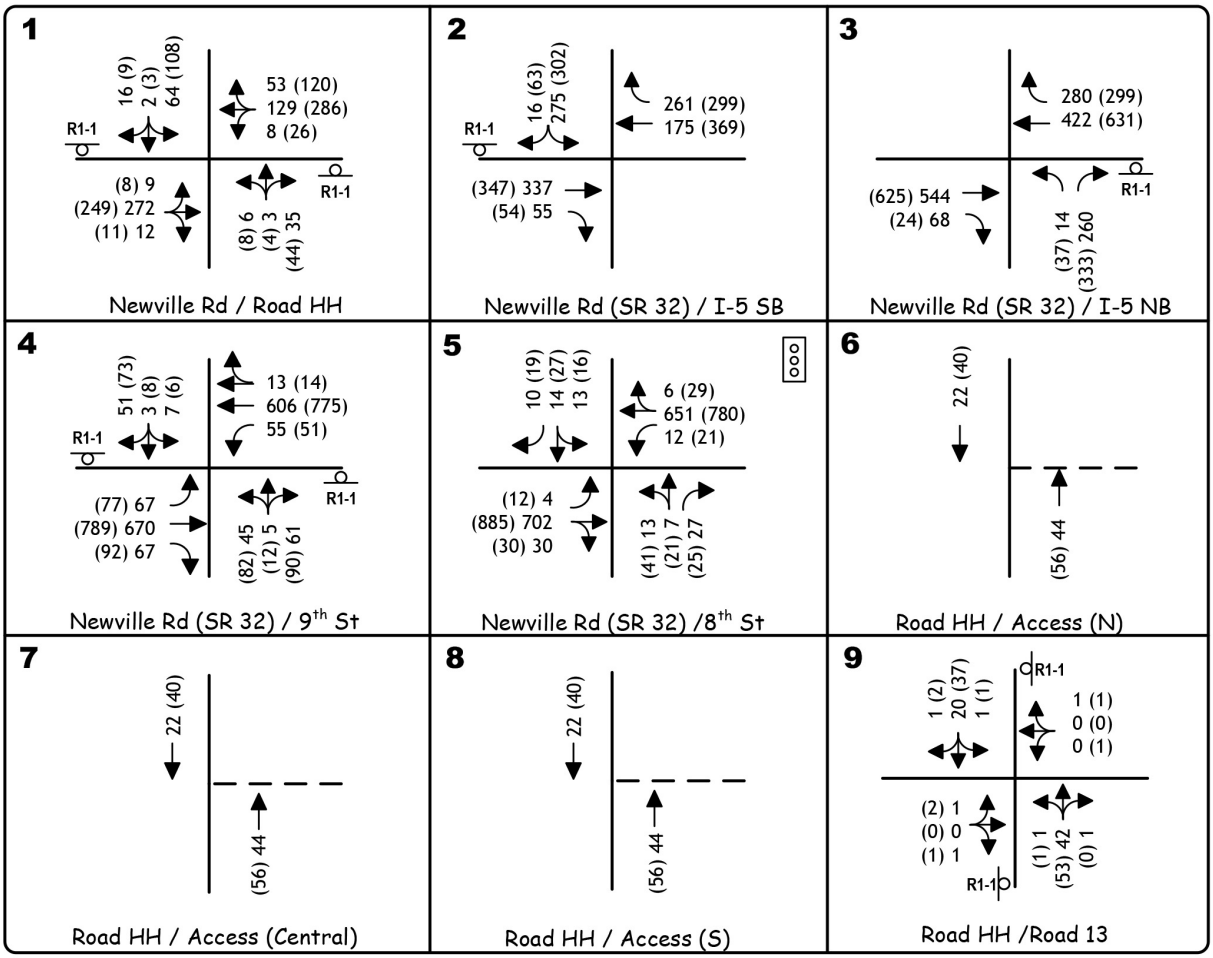
At the Newville Road/SB I-5 ramps intersection, an all-way stop with auxiliary southbound right turn lane would still result in LOS F in the PM peak hour. A traffic signal would operate at LOS B. A traffic signal at this location is currently included in the traffic impact mitigation fee program.

Similarly, the Newville Road (SR 32)/NB I-5 ramps intersection would operate at LOS F with an all-way stop but would deliver LOS B with a traffic signal. A traffic signal at this location is currently included in the City's traffic impact mitigation fee program.

The Newville Road/Tehama Street/Ninth Street intersection would operate at LOS E with an all-way stop but LOS C with a traffic signal. A traffic signal at this location is currently included in the City's traffic impact mitigation fee program.

The levels of service occurring at the Pilot Flying J project's driveway on County Road HH are projected to operate at LOS B or better and satisfy the City's minimum LOS D standard. No additional improvements are needed.

T:_CS\Work\Orland, City of\Pilot Flying J Travel Center\Figures



Source: KD Anderson

Figure 3.8-4

Cumulative No Project Traffic Volumes and Lane Configurations

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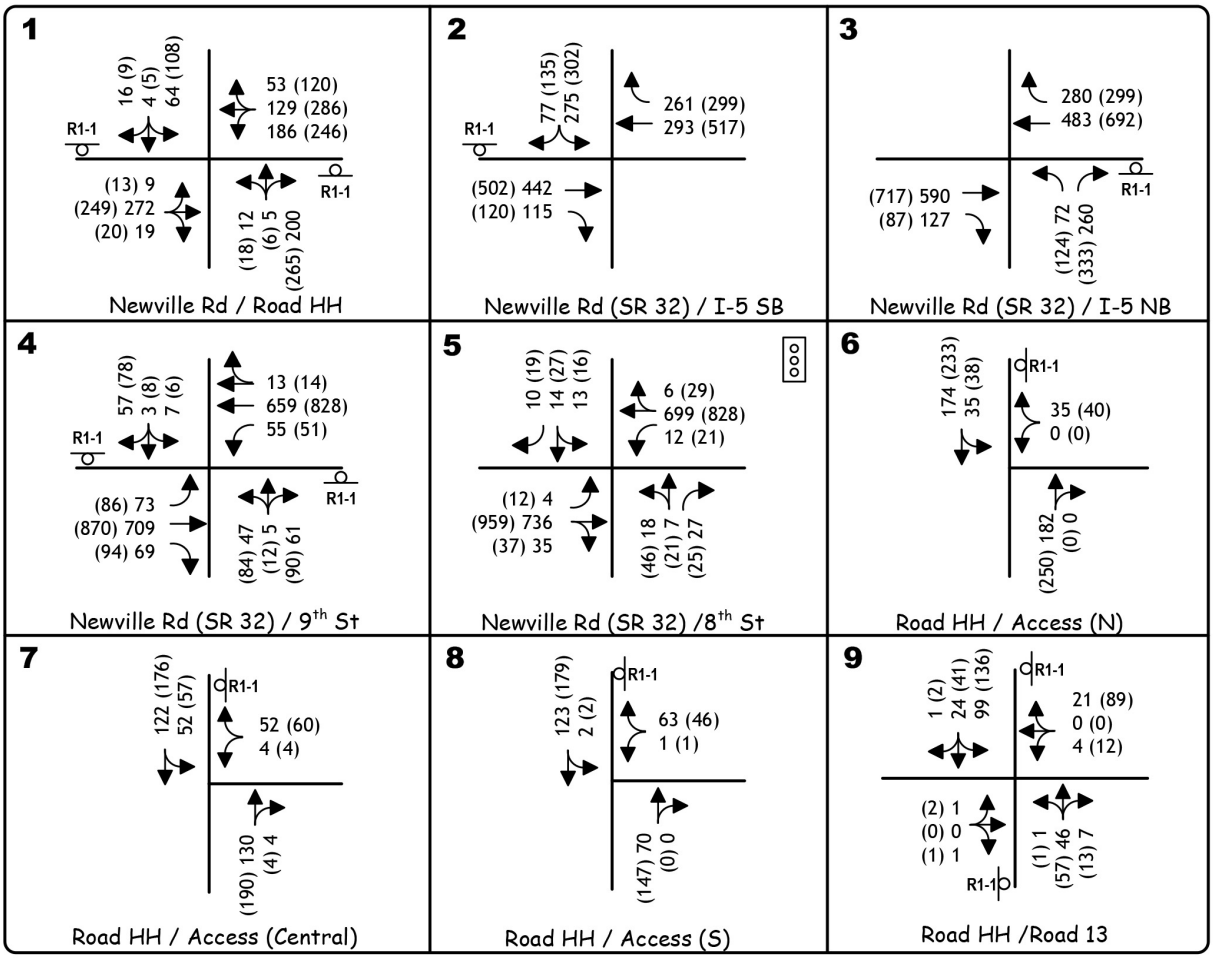

Source: KD Anderson

Figure 3.8-5

Cumulative Plus Project Traffic Volumes

TABLE 3.8-16
CUMULATIVE PLUS PILOT FLYING J PROJECT PEAK-HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control	AM Peak Hour				PM Peak Hour				Warrants Met?
		No Project		Cumulative + Project		No Project		Cumulative + Project		
		Avg Delay (sec/veh)	LOS	Avg Delay (sec/veh)	LOS	Avg Delay (sec/veh)	LOS	Avg Delay (sec/veh)	LOS	
Newville Road/County Road HH										
NB approach	NB/SB Stop	11.3	B	16.6	C	11.9	B	24.2	C	Yes
SB approach		15.1	C	**80.3**	**F**	25.3	D	**764.4**	**F**	
EB left turn		7.7	A	7.7	A	8.2	A	8.3	A	
WB left turn		7.9	A	9.2	A	7.9	A	9.1	A	
Add EB-WB left turn lanes and NB right turn lane	All-Way Stop			14.5	B			24.8	C	
	Signal			23.4	C			27.9	C	
Newville Road (SR 32)/SB I-5 ramps										
SB approach	SB Stop	28.4	D	**109.4**	**F**	**89.2**	**F**	**391.5**	**F**	Yes
Add SB right turn lane	All-Way Stop			27.3	D			**53.5**	**F**	
	Signal			14.1	B			16.0	B	
Newville Road (SR 32)/NB I-5 ramps										
NB approach	NB Stop	24.2	C	32.0	D	**41.2**	**E**	**106.4**	**F**	Yes
	All-Way Stop			**50.1**	**F**			**54.4**	**F**	
	Signal			17.6	B			20.0	B	
Newville Rd (SR 32)/9th St/Tehama St										
NB approach	NB/SB Stop	**96.6**	**F**	**152.4**	**F**	**648.4**	**F**	**>900**	**F**	Yes
SB approach		30.9	D	**37.2**	**E**	**67.4**	**F**	**137.7**	**F**	
EB left turn		9.4	A	9.7	A	10.2	B	10.6	B	
WB left turn		9.6	A	9.8	B	9.9	A	10.4	B	
	All-Way Stop			**41.2**	**E**			**49.0**	**E**	
	Signal			16.9	B			22.6	C	
Newville Road (SR 32)/Eighth Street	Signal	8.9	A	9.5	A	14.5	B	17.5	B	n/a

Intersection	Control	AM Peak Hour				PM Peak Hour				Warrants Met?
		No Project		Cumulative + Project		No Project		Cumulative + Project		
		Avg Delay (sec/veh)	LOS	Avg Delay (sec/veh)	LOS	Avg Delay (sec/veh)	LOS	Avg Delay (sec/veh)	LOS	
County Road HH/North Access	WB Stop	—	—	9.5	A	—	—	10.0	B	No
County Road HH/Central Access	WB Stop	—	—	9.5	A	—	—	10.6	B	No
County Road HH/South Access	WB Stop	—	—	10.9	B	—	—	10.8	B	No
County Road HH/County Road 13										
EB approach	EB/WB Stop	8.7	A	9.9	A	8.9	A	12.0	B	No
WB approach		8.5	A	9.1	B	8.9	A	9.7	A	

Source: KD Anderson 2015, Table 19
Notes: LOS = level of service. Average delay presented in seconds of per vehicle.
Bold *values exceed the minimum standard.*
Bold highlighted *values are a project-related significant impact.*

Cumulative Plus Project Peak-Hour Conditions – Freeway Ramp Junctions: Table 3.8-17 identifies cumulative levels of service at freeway ramp junctions on I-5 with and without the proposed project. As shown, all operate at LOS A or B during the AM and PM peak hours. Thus, the project's cumulative impact to ramps on I-5 is not significant and no mitigation is required.

Roadway Segment Levels of Service: Table 3.8-18 identifies projected daily traffic volumes on study area roads with and without the proposed project and uses that information to determine the planning-level LOS for each facility. As noted earlier, the City's minimum level of service based on daily volume is LOS C.

Cumulative Plus Project Conditions: The addition of trips generated by the Pilot Flying J project and by the adjoining 1.7-acre Parcel B would increase the cumulative traffic volume on study area streets. Two streets that were not deficient without the project would operate with level of service that exceeds LOS C. The volume of traffic on Newville Road in the area between County Road HH and the southbound I-5 ramps would reach the level that indicates LOS E by General Plan thresholds for a two-lane arterial roadway. The addition of project trips would result in daily volume on County Road HH that exceeds the LOS C threshold for a two-lane minor collector roadway.

The volume of traffic on SR 32 over Interstate 4 would be indicative of LOS F, and the project would exacerbate the deficient No Project conditions. Similarly, the project would exacerbate the identified No Project deficiency on SR 32 east of the Ninth Street intersection.

Measures to improve the level of service on study area roadway segments were evaluated; however, it is important to note that in urban areas the flow of traffic through major intersections is generally the controlling factor for the quality of traffic flow. Thus, if the intersections can be made to operate with an adequate level of service, the intermediate roadway segments typically perform adequately even though the planning-level LOS suggests otherwise.

On Newville Road in the area between County Road HH and the southbound I-5 ramps, the development of an auxiliary eastbound lane that led to the eastbound–southbound on-ramp would increase the capacity of this roadway and deliver LOS C based on daily volume. However, no funding for this improvement has been identified.

On County Road HH, development of a two-lane major collector-arterial-type roadway would provide additional capacity and deliver LOS C under Cumulative Plus Project conditions.

Between the southbound and northbound I-5 ramps, the structure over I-5 would theoretically have to be widened to deliver LOS C based on City thresholds. This level of improvement has not been contemplated in the City General Plan or in the SR 32 TCR. Modifications to the SR 32 structure over Interstate 5 are not included in the City's traffic impact mitigation fee program.

The portion of SR 32 from the I-5 interchange through the Eighth Street intersection would need to be improved to provide two through lanes in each direction to achieve LOS C. This level of improvement is anticipated by the General Plan and the SR 32 TCR and has been incrementally completed at the Ninth Street intersection. However, funding to complete this work has not been identified.

TABLE 3.8-17
CUMULATIVE PLUS PILOT FLYING J PROJECT – RAMP JUNCTION LEVELS OF SERVICE

Direction	Location	Type	AM Peak Hour				PM Peak Hour			
			Existing		Existing Plus Project		Existing		Existing Plus Project	
			Density (pc/ln/mi)	LOS	Density (pc/ln/mi)	LOS	Density (pc/ln/mi)	LOS	Density (pc/ln/mi)	LOS
Southbound	Newville Road off	Diverge	14.0	B	14.3	B	15.0	B	15.3	B
	WB Newville Road on	Merge	14.1	B	13.8	B	14.6	B	14.3	B
	EB Newville Road on	Merge	14.9	B	15.3	B	15.4	B	15.7	B
	County Road 16 off	Diverge	14.3	B	14.6	B	14.9	B	15.2	B
Northbound	County Road 16 on	Merge	13.5	B	13.8	B	17.7	B	18.0	B
	Newville Road off	Diverge	12.7	B	13.0	B	17.4	B	17.8	B
	EB Newville Road on	Merge	11.4	B	11.9	B	14.4	B	14.6	B
	WB Newville Road on	Merge	13.9	B	14.2	B	17.0	B	17.1	B

Source: KD Anderson 2015, Table 20

TABLE 3.8-18
CUMULATIVE PLUS PILOT FLYING J PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Street	From	To	Class	Lanes	No Project		Cumulative Plus Project			GPU EIR
					Daily Volume	Level of Service	Daily Volume		Level of Service	Daily Volume
							Project	Total		
Newville Rd (SR 32)	County Road HH	I-5 SB ramps	Arterial	2	7,900	A	5,695	**13,595**	**E**	—
				2+				13,595	B	
	I-5 SB ramps	I-5 NB ramps		2	**13,215**	**D**	3,815	**17,030**	**F**	—
	I-5 NB ramps	9th Street		4	18,475	B	1,810	20,285	B	17,856
	9th Street	8th Street		2	**21,150**	**F**	1,570	**22,720**	**F**	—
County Road HH	Newville Road	County Road 13	Minor Collector	2	1,000	A	5,950	**6,950**	**D**	4,407
			Major Collector	2				6,950	A	
	County Road 13	County Road 15	Minor Collector	2	1,000	A	320	1,320	A	—

Source: KD Anderson 2015, Table 22
Notes: 2+ indicates the addition of a second eastbound lane dropping onto the southbound on-ramp.
Bold *values exceed the City of Orland LOS C threshold for daily volume based level of service.*
Bold highlighted *values are a project-related significant impact.*

Traffic Signal Warrants: The volume of traffic forecast at study intersections under Cumulative and Cumulative Plus Project conditions was compared to MUTCD peak-hour warrant requirements to see whether traffic signals will be justified in the future. As indicated in **Table 3.8-19**, signal warrants are only satisfied at the Newville Road/County Road HH intersection with the project during the PM peak hour. Signal warrants are satisfied at the two I-5 ramp intersections with and without the project. Signal warrants are satisfied at the Newville Road (SR 32)/Ninth Street intersection with and without the project.

None of the intersections on County Road HH south of Newville Road carry volumes that satisfy peak-hour warrants. As noted previously in the discussion of intersection levels of service, funding for these traffic signals has been identified in the City's traffic impact mitigation fee program.

TABLE 3.8-19
CUMULATIVE TRAFFIC SIGNAL WARRANTS

Location	AM Peak Hour		PM Peak Hour	
	No Project	With Project	No Project	With Project
Newville Road/County Road HH	No	No	No	Yes
Newville Road/SB I-5 ramps	No	Yes	Yes	Yes
Newville Road (SR 32)/NB I-5 ramps	Yes	Yes	Yes	Yes
Newville Road/(SR 32)/9th Street	No	No	Yes	Yes
County Road HH intersections	No	No	No	No

Source: KD Anderson 2015, Table 21

CONCLUSION

Impact to Level of Service at Newville Road/County Road HH Intersection: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development will result in the southbound approach to the Newville Road/County Road HH intersection operating with LOS F conditions. Because LOS F exceeds the City's minimum LOS D standard, this is a significant impact.

Mitigation Measures

MM 3.8.6a The project applicant shall contribute its fair share to the cost of installing a traffic signal.

While an all-way stop would deliver an adequate level of service, traffic signal warrants are projected to be satisfied at this intersection. Signalization would result in LOS C conditions, which satisfy the City's minimum LOS D standard. This improvement is identified in the City General Plan EIR and is in the City's traffic impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

With implementation of mitigation measure **MM 3.8.6a**, the project's cumulative impact would be **less than significant**

Impact to Level of Service at Newville Road/SB I-5 Ramps Intersection: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development and through traffic on SR 32 will result in the off-ramp approach to the Newville Road/SB I-5 ramps intersection operating with LOS F conditions. Because LOS F exceeds the City's minimum LOS D standard, this is a significant impact.

Mitigation Measures

MM 3.8.6b The project applicant shall contribute its fair share to the cost of widening the off-ramp to provide a separate right turn lane and installing a traffic signal.

This improvement would result in LOS B conditions, which satisfy the City's minimum LOS D standard. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. A traffic signal is identified in the City General Plan EIR and is in the City's traffic impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

With implementation of mitigation measure **MM 3.8.6b**, the project's cumulative impact would be **less than significant**.

Impact to Level of Service at Newville Road/NB I-5 Ramps Intersection: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development and through traffic on SR 32 will result in the off-ramp approach to the Newville Road/northbound I-5 ramps intersection operating with LOS F conditions. Because LOS F exceeds the City's minimum LOS D standard, this is a significant impact.

Impact to Level of Service at Newville Road/Ninth Street Intersection: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development and through traffic on SR 32 will result in the northbound and southbound approaches to the Newville Road/Ninth Street intersection operating with LOS F conditions. Because LOS F exceeds the City's minimum LOS D standard, this is a significant impact.

Mitigation Measures

MM 3.8.6c The project applicant shall contribute its fair share to the cost of installing a traffic signal.

This improvement would result in LOS B conditions, which satisfy the City's minimum LOS D standard. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. This improvement is identified in the City General Plan EIR and is in the City's traffic

impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

With implementation of mitigation measure **MM 3.8.6c**, the project's cumulative impact would be **less than significant**.

Impact to Level of Service on Newville Road West of I-5 Based on Daily Traffic Volume: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development in Orland will result in total daily traffic volumes on Newville Road that exceed the LOS C standard for a two-lane arterial. This is a significant impact.

Mitigation Measures

MM 3.8.6d The project applicant shall contribute its fair share to the cost of widening eastbound Newville Road between County Road HH and the southbound I-5 on-ramp to provide an auxiliary lane that continues onto the on-ramp.

With this improvement, the segment level of service would be LOS B, which satisfies the City's minimum LOS C standard. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. This improvement is not identified in the General Plan EIR and is not currently in the City's traffic impact mitigation fee program. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

With implementation of mitigation measure **MM 3.8.6d**, the project's cumulative impact would be **less than significant**.

Impact to Level of Service on County Road HH Between Newville Road and County Road 13 Based on Daily Traffic Volume: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development in Orland will result in total daily traffic volumes on County Road HH that exceed the LOS C standard for a two-lane minor collector. This is a significant impact.

Mitigation Measures

MM 3.8.6e The project applicant shall contribute its fair share to the cost of improving County Road HH to a major collector or arterial street standard.

The project applicant shall improve the east side of County Road HH to a major collector-arterial standard to the satisfaction of the City Engineer as its fair share contribution to the cost of overall street improvements. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

With implementation of mitigation measure **MM 3.8.6e,** County Road HH will operate at LOS A and the impact would be **less than significant**.

Impact to Level of Service on Newville Road Between SB I-5 and NB I-5 Ramps Based on Daily Traffic Volume: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development in Orland will result in total daily traffic volumes on Newville Road that exceed the LOS C standard for a two-lane arterial. This is a significant impact.

Mitigation Measures

MM 3.8.6f The project applicant shall contribute its fair share to the cost of coordinating traffic signals on Newville Road.

To deliver LOS C conditions, it would be necessary to widen SR 32 to provide additional lanes on the crossing structure. However, this improvement is not included in the General Plan EIR or the City's traffic impact mitigation fee program. Widening the structure is not identified in the SR 32 TCR. Thus, there is no identified funding mechanism for a project of this magnitude and it is unreasonable to expect that local development in Orland would be capable of funding this improvement. As noted earlier, short roadway segments can carry high traffic volumes but operate adequately when the intersections have the capacity to handle peak-period traffic volumes at a good level of service. This is the case with the intersections on SR 32, which are expected to operate at LOS C or better with identified improvements. Coordinating the operation of the study area signals with the operation of the signals farther east on SR 32 will be appropriate. Implementation will require work within the Caltrans right-of-way, and an encroachment permit would be required. Because this improvement is not required solely as a result of the Pilot Flying J project, the project applicant shall contribute its fair share to the cost of this mitigation. The Pilot Flying J project's fair share of cumulative mitigation measures is shown in **Table 3.8-20**.

Timing/Implementation: *Prior to occupancy*

Enforcement/Monitoring: *City of Orland Engineer, City of Orland Planning Department*

However, because the forecast daily traffic volumes remain above the LOS C threshold, this impact will remain and is considered to be **cumulatively considerable** and **significant and unavoidable**.

Impact to Level of Service on Newville Road Between Ninth Street and Eighth Street Based on Daily Traffic Volume: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development in Orland will result in total daily traffic volumes on Newville Road that exceed the LOS C standard for a two-lane arterial. This is a significant impact.

To deliver LOS C conditions, it would be necessary to widen SR 32 east of Ninth Street to provide an additional lane in each direction. This improvement is consistent with the General Plan Circulation Element and the SR 32 TCR. However, this improvement is not included in the City's traffic impact mitigation fee program. There is no identified funding mechanism for a project of this magnitude, and it is unreasonable to expect that local development in Orland would be capable of funding this improvement. As noted earlier, short roadway segments can carry high traffic volumes but operate adequately when the intersections have the capacity to handle peak-period traffic volumes at a good level of service. This is the case with the intersections on SR 32, which are expected to operate at LOS C or better. Coordinating the operation of these signals will be appropriate and is already identified as mitigation measure **MM 3.8.3f**. However, because the forecast daily traffic volumes remain above the LOS C threshold, this impact will remain and is considered to be **cumulatively considerable** and **significant and unavoidable**.

Mitigation Measures

None feasible.

TABLE 3.8-20
FAIR SHARE CALCULATION

Impacted Intersection/Roadway	A	B	C	Fair Share (b/c) <b/(c–a)>
	Existing	Pilot Flying J Project Only	Cumulative Plus Project	
Based on Peak-Hour Traffic				
Newville Road/County Road HH	660	300	1,345	(22%) <44%>
Newville Road (SR 32)/SB I-5 Ramps	672	234	1,456	(16%) <30%>
Newville Road (SR 32)/NB I-5 ramps	760	125	1,566	(8%) <16%>
Newville Road (SR 32)/9th Street	915	72	2,221	(3%) <5%>
Based on Average Daily Traffic				
Newville Road from County Road HH to SB I-5 ramps	7,200	3,825	13,595	(28%) <60%>
Newville Road (SR 32) from SB I-5 ramps to NB I-5 ramps	8,120	2,425	17,030	(14%) <27%>
Newville Road (SR 32 from 9th Street to 8th Street	8,290	790	22,720	(3%) <5%>

Source KD Anderson 2015, Table 23
Notes: (b/c) is fair share based on all future traffic
<b (c–a)> is fair share as a percentage of new future traffic only

REFERENCES

GCALUC (Glenn County Airport Land Use Commission). 1991. *Comprehensive Airport Land Use Plan Orland Haigh Field Airport*.

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Orland, City of. 2010. *General Plan Update Draft Environmental Impact Report*, SCH No. 2008102073. http://www.cityoforland.com/_documents/OrlandGeneralPlanDEIR27-0153_FINAL6-25.pdf.

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3.9 UTILITIES

This section describes the utilities that would serve the Westside Annexation Area and the Pilot Flying J Travel Center project area. Specifically, this section includes an examination of wastewater services, water supply and services, and stormwater services. Each subsection includes a description of existing facilities and infrastructure, applicable service goals, potential environmental impacts resulting from implementation of the proposed project, and cumulative impacts.

3.9.1 WASTEWATER/SANITARY SEWER

3.9.1.1 EXISTING SETTING

The only existing sewer line in the area of the Westside Annexation Area and Pilot Flying J project area is located in County Road HH. This 10-inch line connects to the 8-inch line serving the commercial uses northeast of Newville Road and County Road HH and then runs south on County Road HH, turning east on County Road 15. The line then crosses under Interstate 5 and finally connects the main system at Memory Avenue within the city boundaries. All new development in the Westside Annexation Area and the Pilot Flying J project area would connect to this line. However, those parcels located on Newville Road in the Westside Annexation Area may require a sewer line extension from the 10-inch line, as those parcels are not adjacent to the 10-inch line located in County Road HH.

One comment was received during the October 20, 2014, scoping meeting for the proposed project regarding sewer drainage in this line. This sewer line has overflowed in the past and the concern was that addition of the Pilot Flying J Travel Center would create more sewer overflows. As a result of this comment, the City of Orland completed an analysis of the area's sewer system. This analysis determined that the overflows were caused by a specific use on the area's sewer line. Recommendations on how to correct this situation were proposed by the City and accepted by the specific user. As such, it is expected that this overflow situation will be rectified when the recommended changes are completed.

The City of Orland collects, treats, and disposes of wastewater generated by users in the sewer service area. The sewer collection infrastructure in the city consists of approximately 30 miles of sanitary sewer main with 400 sanitary sewer manholes (Orland 2010a, p. 10). The sewer mains range from 6 inches to 24 inches in diameter and are constructed of vitrified clay or concrete pipe. There are four sewer lift stations; each station serves an area of less than 20 acres (Orland 2010a, p. 10). The City prioritizes its preventive maintenance activities on service requests, operational failure, uncharacteristically high flows, historical knowledge, and experience.

All sewage is collected and processed by the Orland Wastewater Facility. The Wastewater Facility utilizes a primary treatment process consisting of a bar-screen located at the headworks building with screened effluent disposed into a rotating series of four sewage disposal ponds located west of the airport. These four primary settling ponds, along with two specially lined and isolated brine ponds, are located on a 50-acre City-owned parcel of land.

The Wastewater Facility is currently operating under Waste Discharge Requirements Order No. 96-129, which was adopted by the Central Valley Regional Water Quality Control Board (RWQCB) on May 3, 1996. The City's Waste Discharge Requirements indicate that the design capacity in 1996 for the four stabilization ponds and disposal field was 2.1 million gallons per day (mgd), with an average domestic wastewater flow of 1.3 mgd.

According to the City's Public Works Department, the City's Wastewater Facility currently has an average flow of 0.65 mgd, with a peak flow of 1.12 mgd. The capacity of the collection system is

3.4 mgd (based on peak flow) and the capacity of the Wastewater Facility is 2.1 mgd (based on average flows). Based on these numbers, the system is currently operating at about 31 percent of capacity (Orland 2014b).

3.9.1.2 REGULATORY FRAMEWORK

FEDERAL

Clean Water Act

The Clean Water Act (CWA) is the primary federal legislation governing the protection of surface water quality. The statute employs a variety of regulatory and nonregulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so they can support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. Pollutants regulated under the CWA include "priority" pollutants, including various toxic pollutants; "conventional" pollutants, such as biochemical oxygen demand, total suspended solids, fecal coliform, oil and grease, and Ph; and "non-conventional" pollutants, including any pollutant not identified as either conventional or priority.

General Pretreatment Regulations

Another type of discharge regulated by the CWA is discharge that goes to a publicly owned treatment works (POTW). POTWs collect wastewater from homes, commercial buildings, and industrial facilities and transport it via a collection system to the treatment plant. Here, the POTW removes harmful organisms and other contaminants from sewage so it can be discharged safely into the receiving water body. Generally, POTWs are designed to treat domestic sewage only. However, POTWs also receive wastewater from industrial (nondomestic) users. The General Pretreatment Regulations establish the responsibilities of federal, state, and local governments, industry, and the public to implement pretreatment standards to protect municipal wastewater treatment plants from damage that may occur when hazardous, toxic, or other wastes are discharged into a sewer system and to protect the quality of sludge generated by these treatment plants.

STATE

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine Regional Water Quality Control Boards located in the major watersheds of the state. The SWRCB is responsible for implementing the Clean Water Act and issues National Pollutant Discharge Elimination System permits to cities and counties through Regional Water Quality Control Boards (RWQCBs). Orland is located in a portion of the state regulated by the Central Valley RWQCB (Region 5).

Sanitary Sewer Overflow Program

A sanitary sewer overflow (SSO) is any overflow, spill, release, discharge, or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs often contain high levels of

suspended solids, pathogenic organisms, toxic pollutants, nutrients, oil, and grease and can pollute surface water and groundwater, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters. The SWRCB adopted Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 (Sanitary Sewer Order) on May 2, 2006. The Sanitary Sewer Order requires public agencies that own or operate sanitary sewer systems to develop and implement sewer system management plans and report all SSOs to the State Water Resources Control Board's online SSO database. All public agencies that own or operate a sanitary sewer system comprising more than 1 mile of pipes or sewer lines which convey wastewater to a publicly owned treatment facility must apply for coverage under the Sanitary Sewer Order (SWRCB 2014a).

Waste Discharge Requirements Program

In general, the Waste Discharge Requirements (WDR) Program (sometimes referred to as the Non Chapter 15 (Non 15) Program) regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Clean Water Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDR Program also includes the discharge of wastes classified as inert, pursuant to Section 20230 of Title 27. Several SWRCB programs are administered under the WDR Program, including the Sanitary Sewer Order and recycled water programs (SWRCB 2014b).

LOCAL

City of Orland

General Plan

The Orland General Plan includes policies and programs intended to provide sufficient wastewater collection and processing for all uses in the city. Policy 5.8.A requires that sufficient wastewater processing capacity is available to serve anticipated growth. Program 5.8.A.4 requires the assessment of impact fees for new developments that impact the City's wastewater system. Policy 5.8.B requires all sewage generators within the city limits to connect to the City's system, except those areas where on-site treatment and disposal facilities are deemed appropriate and beneficial to Orland.

Sanitary Sewer System Management Plan

The City of Orland prepared the Sanitary Sewer System Management Plan in April 2010 in order to reduce sanitary sewer overflows in accordance with the SWRCB's Order 2006-0003. The plan established the following goals for the operation and maintenance of the sanitary sewer collection system:

- Properly manage, operate, and maintain all parts of the City's sanitary sewer collection system.
- Provide adequate capacity to convey peak flows.
- Minimize the frequency of sanitary sewer overflows (SSOs).
- Mitigate the impact of SSOs.

Sewer Master Plan

The Orland Sewer Master Plan was completed in August 2009 and applies to current and future development in the Orland Planning Area. The main objectives of this plan are to (1) evaluate the existing sewer infrastructure and the ability to collect and dispose of the existing and future sewerage flows; (2) determine the deficiencies within the system and evaluate feasible solutions to correct them; (3) select the most economical solutions to correct deficiencies; and (4) evaluate potential service locations to undeveloped portions of the city or areas in the city's sphere of influence.

Municipal Code Chapter 13.04

Chapter 13.04 of the Orland Municipal Code was enacted for the purpose of adopting standards, regulations, and procedures for the use and operation of, connection to, and extension of the City water and sewer systems and to establish fees and charges for service and connections. Individual sewage disposal systems are not allowed in the city except under certain circumstances identified in Section 13.04.270. Section 13.04.190(B) discusses illegal discharges in the City's sewer system.

3.9.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis below is based on California Environmental Quality Act (CEQA) Guidelines Appendix G. A wastewater service impact is considered significant if implementation of the project would:

1) Exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2) Require or result in the construction of wastewater treatment facilities or expansion or existing facilities, the construction of which could cause significant environmental effects.

3) Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

METHODOLOGY

A review of available literature and discussions with the City Engineer were the basis for this analysis. Wastewater flow for future development on the project site was estimated based on information provided by the project applicant and the City Engineer.

PROJECT IMPACTS AND MITIGATION MEASURES

Exceed Wastewater Treatment Requirements (Standards of Significance 1, 2, and 3)

Impact 3.9.1.1 Implementation of the proposed project would result in the generation of wastewater, which would require processing at the Orland Wastewater Facility. The existing plant has adequate capacity. Therefore, this impact would be **less than significant**.

Westside Annexation Area

Future development of new uses associated with Parcel B of APN 045-170-005 in the Westside Annexation Area may result in impacts to the City's wastewater processing requirements. However, all new development in the Westside Annexation Area would be required to connect to the City's Wastewater Facility, which currently operates in compliance with all applicable existing regulatory requirements. In addition, the 2009 Sewer Master Plan includes recommended facility and management program upgrades to ensure compliance with anticipated future regulatory requirements. Since any future projects would be required to connect to the City's wastewater facilities, the Westside Annexation Area would have a **less than significant** impact on the wastewater processing requirements of the Central Valley RWQCB.

Pilot Flying J Project

The Wastewater Facility currently operates in compliance with all applicable existing regulatory requirements. In addition, the 2009 Sewer Master Plan includes recommended facility and management program upgrades to ensure compliance with anticipated future regulatory requirements. Therefore, the proposed Pilot Flying J Travel Center would not result in the exceedance of any wastewater processing requirements of the Central Valley RWQCB. This impact would be **less than significant**.

Mitigation Measures

None required.

Wastewater Conveyance and Treatment Expansion (Standards of Significance 2 and 3)

Impact 3.9.1.2 Implementation of the proposed project will result in future development that would increase the demand for conveyance and processing of wastewater and require the connection of the project to existing sewer mains in order to serve the project. This impact is **less than significant**.

Westside Annexation Area

Future development of new uses in the Westside Annexation Area may result in impacts to the City's wastewater collection and processing system. Based on the development potential shown in **Table 2.0-1**, the Westside Annexation Area could result in 1.7 acres of new commercial uses. According to the Orland Sewer Master Plan (2009), commercial uses are equal to 5.4 housing equivalents (HE) per acre. A housing equivalent is defined in the Sewer Master Plan as an "area that will produce the same amount of wastewater flow as one single family home within a low-density location" (Orland 2009, p. 6). Using these factors, the Westside Annexation Area has the potential to result in nine HEs. In other words, if the Westside Annexation Area were to be developed at its full potential, the area would generate the same amount of wastewater as approximately nine low-density single-family homes, or 3,879 gallons per day (gpd) under current conditions.[1] While this may seem substantial, 3,879 gpd represents approximately 0.2 percent of the existing processing capacity of the Wastewater Facility.[2] While future development would

[1] Current wastewater flow per single-family home in the city is 431 gallons per day (Orland 2014b). Therefore, nine single-family homes produce 3,879 gpd (0.004 mgd) of wastewater.
[2] 3,879 gpd/2,100,000 gpd (2.1 mgd) of Wastewater Facility capacity X 100% = 0.2%

require connection to the City's wastewater facilities, the increase of 3,879 gpd would not result in the need for new or expanded wastewater facilities. Therefore, this is a **less than significant** impact.

Pilot Flying J Project

According to the Pilot Flying J applicant and based on similar travel center projects, the proposed Pilot Flying J Travel Center would generate an estimated 9,000 gallons per day during average dry weather flow of wastewater. Wastewater generated by the Travel Center would be conveyed to the City's Wastewater Facility for processing via existing sewer collection facilities located in County Road HH, adjacent to the Travel Center site. As described previously, the current capacity of the plant is limited to 2.1 mgd; the Wastewater Facility treats an average 1.3 mgd of wastewater and is capable of treating up to 3.4 mgd during peak wet weather flow. Therefore, the addition of 0.009 mgd of Pilot Flying J Travel Center-generated wastewater would not exceed the Wastewater Facility's capacity. According to the Orland Sewer Master Plan, commercial uses are equal to 5.4 housing equivalents (HE) per acre. A housing equivalent is defined as an "area that will produce the same amount of wastewater flow as one single family home within a low-density location" (Orland 2009, p. 6). According to the City's Public Works Department, the average single-family home produces approximately 431 gpd of wastewater (Orland 2014b). Based on this information, the Pilot Flying J Travel Center would account for 40.5 HEs or 17,455 gpd of wastewater.[3] According to the 2009 Sewer Master Plan, assuming a 2.3 percent annual population growth, the Wastewater Facility should have adequate capacity for 45 to 50 years (Orland 2009, p. 11). The average annual population growth between 2000 and 2014 was 1.4 percent,[4] less than the growth assumed in the 2009 Sewer Master Plan.

The proposed Travel Center has the potential increase the demand for wastewater conveyance and processing by approximately 9,000 gpd (0.009 mgd) or 17,455 gpd (0.017 mgd) of wastewater, depending of the source of the information. This increased demand would represent a 1.4 to 2.6 percent increase over the existing demand or 0.6 to 1.2 percent of the 1.45 mgd remaining plant capacity. Since there is adequate capacity remaining at the Wastewater Facility to serve the proposed Travel Center, the Travel Center would not result in the need for new or expanded facilities. This impact would be considered **less than significant**.

Mitigation Measures

None required.

3.9.1.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting encompasses the growth assumed in Orland for the year 2028 as defined in the Orland General Plan. The 2009 Sewer Master Plan identified a 20-year growth forecast for wastewater flow using the General Plan's high growth scenario of 2.6 percent annually resulting in a 2028 population of 12,286 (Orland 2010c, p. 2.0-8). At this population, the city would have an average annual wastewater flow of 1.08 mgd and an annual peak hour flow of 1.87 mgd (Orland 2009, Section 4.3).

[3] Wastewater demand: 7.5 acres X 5.4 HE/acre = 40.5 HEs. 40.5 X 431 gpd of wastewater = 17,455 gpd of wastewater
[4] Population growth: ((2014 population of 7,683/2000 population of 6,281)^ 1/14 years – 1) X 100% = 1.4%

The city's actual average annual growth rate between 2000 and 2014 was 1.4 percent. Using this growth rate, the 2028 population would be 9,334 with an estimated 0.82 mgd of wastewater generated.[5] This wastewater flow is well under the 2.1 mgd capacity of the Orland Wastewater Facility.

Cumulative Wastewater Service Impacts

Impact 3.9.1.3 Implementation of the proposed project, along with other existing, planned, proposed, approved, and reasonably foreseeable development in the cumulative setting, would contribute to the cumulative demand for wastewater service. However, the proposed project's impact would be **less than cumulatively considerable**.

The proposed project, combined with other development in the wastewater service area, would increase the demand on wastewater conveyance infrastructure and processing facilities. The City requires all new development projects to pay development impact fees and construct necessary wastewater improvements. Future development on the project site would be required to pay connection and service fees prior to issuance of a building permit. The proposed project's payment of connection fees would contribute toward improvements to meet future increased demands.

The proposed Westside Annexation Area's potential wastewater generation would represent a 0.6 percent increase over the existing demand or 0.2 percent of the remaining 1.45 mgd remaining plant capacity, which would not be cumulatively considerable. Therefore, this impact is **less than cumulatively considerable**.

The proposed Pilot Flying J Travel Center's potential wastewater generation would represent a 1.4 percent increase over the existing demand or 0.6 percent of the remaining 1.45 mgd remaining plant capacity, which would not be cumulatively considerable. Therefore, this impact is **less than cumulatively considerable**.

Mitigation Measures

None required.

3.9.2 WATER SERVICE

3.9.2.1 EXISTING SETTING

Water Supply

The City of Orland would provide water service to the Pilot Flying J site. Existing water lines are located in Newville Road as well as County Road HH, which would allow service to future new development in the Westside Annexation Area.

The source of water supply for Orland is groundwater pumped from six wells that produce between 350 to 1,090 gallons per minute (gpm). The wells are located throughout the city and range in depth from 150 feet to 400 feet (Orland 2014a, p. 2-1). Gravity flow from an 80,000-gallon elevated storage tank provides the water pressure in the city. The water transmission and

[5] 2028 Wastewater: 1.08 mgd/12,286 population (equates to 87.9 gallons per person) X 9,334 population = 0.82 mgd

distribution systems consist of approximately 34 miles of pipeline ranging in diameter from 4 inches to 10 inches (Orland 2014a, p. 2-2). The water system is operated at 50 to 65 pounds per square inch (psi) pressure under normal demand. The six wells are capable of producing 5,130 gallons per minute at 55 psi system pressure (Orland 2014a, p. 2-1).

City staff reports that all existing wells in the water system run simultaneously at times during the summer to meet water demands. The City's (2014a) Water System Capacity Study indicates that the current maximum daily demand is approximately 5,400 gpm and the combined maximum day demand plus fire flow demand is approximately 7,900 gpm. Per the Water System Capacity Study, given the small amount of existing storage volume, the City should consider increasing the source capacity a minimum of 2,770 gpm from 5,130 gpm to 7,900 gpm to meet the current combined maximum daily demand plus fire flow demand.

The Orland water system currently serves 2,817 residential water customers and 11 nonresidential customers (Orland 2014b). Non-metered water use includes water used for park irrigation, water main flushing, construction water, and distribution system losses. Typical values for unaccounted water are in the range of 10 to 20 percent (Orland 2010a, p. 4.12-2).

Groundwater Resources

This groundwater extracted for Orland's water supply comes from the Colusa Groundwater Subbasin, part of the Sacramento Valley Groundwater Basin. The California Department of Water Resources (DWR) (2006, p. 4) Bulletin 118 identified the Colusa Subbasin groundwater supply as follows: "Generally, groundwater level data show an average seasonal fluctuation of approximate 5 feet for normal and dry years. Overall there does not appear to be any increasing or decreasing trends in groundwater levels."

The estimated storage capacity to a depth of 200 feet is approximately 13,025,887 acre-feet and estimates of groundwater extraction for agricultural, municipal and industrial, and environmental wetland uses are 310,000; 14,000; and 22,000 acre-feet, respectively (DWR 2006). The Department of Water Resources did not identified the Colusa Subbasin as overdrafted in its Bulletin 118. In addition, there has been no indication of any existing or anticipated overdraft condition in studies prepared by other entities (DWR 2006).

DWR maintains the Groundwater Information Center Map interface. This database monitors groundwater level data taken from monitoring wells throughout the state. According to this data, well number 22N03W21F002M, which is located near the project site, had a depth to groundwater of 37.1 feet on October 14, 2014. The spring measurement shows that the depth to groundwater has increased by 11.7 feet since 2004, (17.3 feet on March 31, 2004 and 29.06 feet on March 19, 2014). Available records show that this well had a maximum depth to groundwater of 41.4 feet on November 11, 1977 (DWR 2014).

Water Storage

Currently, water storage in the city is provided by an 80,000-gallon elevated storage tank constructed in 1912. The elevation of the tank maintains the water system pressure between 43 psi and 54 psi under gravity conditions (Orland 2014a, p. 2-2). Based on 2,817 metered service connections, the California Water Works Standards require approximately 2.0 million gallons of storage. The existing elevated water storage tank provides 80,000 gallons, or 0.08 million gallons, of storage volume. The California Department of Public Health has determined that even though the water system does not meet the California Water Works Standards for storage volume, the City may utilize source capacity to offset the needed storage volume. The required storage volume for

the year 2028 is computed to be approximately 620,000 gallons if all system pumps are in service and 1,475,000 gallons if the highest capacity well is out of service (Orland 2014a, p. 4-1).

Water Demand

Future water demand identified in the City's (2004) Water System Master Plan is based on growth projections in the General Plan. The growth projections are established for three growth scenarios: (1) "high," a 2.6 percent average annual growth rate; (2) "medium," a 2.2 percent average annual growth rate; and (3) "low," a 1.8 percent average annual growth rate (Orland 2004, p. 4-1). Using the low growth scenario, the Water System Master Plan identified that the city will reach a population of 8,110 by 2014 and as such would require additional source capacity to serve a population beyond this number. While the growth scenarios were adequate at the time the master plan was produced in 2004, none of these scenarios were correct in projecting the city's actual population growth. According to the California Department of Finance (DOF), as of January 1, 2014, the city's population was estimated to be 7,683, well below all three growth scenarios. The actual annual growth in the city between the years 2000 and 2014 was 1.5 percent.[6] Using this growth rate, the city's population would not surpass 8,110 until 2018.

The Water System Master Plan identified that the City's water system currently has capacity for a total of 3,272 connections or a population of 8,110 (Orland 2004, p. 4-1). The 2014 Water System Capacity Study determined that assuming an occupancy factor of 2.66 persons per water service connection, and depending on the actual growth rate, Orland will have between 3,950 and 4,615 active water service connections by the year 2028 (Orland 2014a, p. 4-2). The Water System Capacity Study also identified that the maximum daily demand in the year 2028 will be approximately 7,110 gpm. The existing source capacity of approximately 5,130 gpm will have to be increased by 1,980 gpm to meet Orland's maximum daily demand under the high growth rate scenario, and an additional 1,500 gpm should be planned in the capacity upgrades to address coincident fire flow demand (Orland 2014a, p. 4-1).

The current average daily water demand per housing unit equivalent (HUE) is 571 gallons. The commercial HUE is 3,985 gpd, while the high-density residential HUE is 255 gpd (Orland 2014b).

3.9.2.2 REGULATORY FRAMEWORK

FEDERAL

Safe Drinking Water Act

The US Congress originally passed the Safe Drinking Water Act in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. The act applies to every public water system in the United States but does not regulate private wells that serve fewer than 25 individuals.

The act authorizes the US Environmental Protection Agency (EPA) to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. Originally, the act focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments changed the existing law by recognizing source water protection, operator training, funding for

[6] Average annual growth rate = (7,681 (2014 population)/6,281 (2000 population)^(1/14) – 1) X 100% = 1.5%

water system improvements, and public information as important components of safe drinking water.

STATE

California Water Plan

The California Water Plan is the state's blueprint for integrated water management and sustainability. The California Department of Water Resources (DWR) updates the Water Plan approximately every five years. California Water Plan Update 2013 (Update 2013) is the latest edition of the water plan and provides statewide strategic plan for water management in the state. Update 2013 is a resource and tool to guide investment priorities and legislative action and ensure resilient and sustainable water resources moving forward based on decades of scientific data and analyses, nearly 40 State agency plans, and the voices of hundreds of stakeholders. Update 2013 applies at statewide, regional, and local scales and serves to advise a diverse audience, including elected officials, planners and resource managers, tribal governments and communities, academia, and the general public. Consistent with State law, Update 2013 lays out recommendations rather than mandates. The plan provides a framework and resource management strategies promoting three major initiatives: integrated regional water management planning and implementation; government agency alignment and investment in innovation and infrastructure (DWR 2013).

Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Water Code Sections 10610–10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The act describes the contents of the Urban Water Management Plans (UWMP) as well as how urban water suppliers should adopt and implement the plans. The City is not subject to this act, as the water system does not have 3,000 customers (connections) nor does it provide over 3,000 acre-feet of water annually.

Senate Bill 610

Senate Bill (SB) 610 (Water Code Sections 10910–10915) makes changes to the Urban Water Management Planning Act to require additional information in Urban Water Management Plans if groundwater is identified as a source available to the supplier. Required information includes a copy of any groundwater management plan adopted by the supplier, a copy of the adjudication order or decree for adjudicated basins, and if nonadjudicated, whether the basin has been identified as being overdrafted or projected to be overdrafted in the most current DWR publication on that basin. If the basin is in overdraft, the plan must include current efforts to eliminate any long-term overdraft.

Additionally, SB 610 serves to amend existing legal requirements for confirmation of water supply sufficiency as a condition of approval for development projects. The confirmation of water supply sufficiency is achieved through an analysis of the water purveyor's existing and future water sources and existing and projected water demand in relation to a "project" as defined by SB 610, resulting in the production of a project-specific water supply assessment. The assessment also requires additional analysis if any portion of the water purveyor's water supplies include groundwater. SB 610 defines a business establishment employing more than 1,000 persons or

having more than 500,000 square feet of floor space as a "project." The proposed project would employ an anticipated 75 persons and would not have more than 5000,000 square feet of floor space; therefore, the project does not require a water supply assessment.

Senate Bill 7

Senate Bill 7 (SBx7-7) (Water Code Section 10608) was signed into law in November 2009 and amended the State Water Code to require a 20 percent reduction in urban water use (per capita) by December 31, 2020. The law applies to every retail urban water supplier subject to the Urban Water Management Planning Act. The state is required to reduce per capita water use by at least 10 percent on or before December 31, 2015. SBx7-7 requires each urban retail water supplier to develop interim and 2020 urban water use targets in accordance with specific requirements. If water suppliers do not comply with the requirements of SBx7-7, they are not eligible for state water grants or loans.

LOCAL

City of Orland

General Plan

The Orland General Plan includes policies and programs intended to reduce impacts to the City's water supply and facilities caused by new development. Open Space, Conservation, and Public Facilities Element Policy 5.7.B promotes the efficient use of water in the City's General Plan Planning Area by promoting the use of water-conserving devices for new construction and major renovations (Program 5.7.B.1). Program 5.7.B.2 requires new development to fund its fair share portion of impacts to all water supply–related services and facilities.

Water Conservation and Shortage Plan

On September 2, 2014, the Orland City Council adopted the City's Water Conservation and Shortage Plan. The plan contains five levels of water conservation as follows:

Normal Operations: Metered usage, no limits except wasting is prohibited per code (Municipal Code Section 13.04.100) and encouraged with tiered rates.

Stage 1 Shortage: Conservation is encouraged, egregious instances called to attention of property owner.

Stage 2 Shortage: Stage 1 and irrigation is limited to 4 days per week, daylight watering is discouraged.

Stage 3 Shortage: Stage 2 and irrigation is limited to 2 days per week; no daylight watering is allowed.

Stage 4 Shortage: Outdoor irrigation is prohibited.

3.9.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

The impact analysis below is based on the following CEQA Guidelines Appendix G thresholds of significance. A water service impact is considered significant if implementation of the project would:

1) Result in the need for new entitlements or a substantial expansion or alteration to local or regional water supplies that would result in a physical impact to the environment.

2) Result in the need for new systems or a substantial expansion or alteration to the local or regional water treatment or distribution facilities that would result in a physical impact to the environment.

METHODOLOGY

A review of available literature and discussions with the City Engineer were the basis for this analysis. Potable water demand for future development on the project was estimated based on information provided by the project applicant and the City Engineer.

PROJECT IMPACTS AND MITIGATION MEASURES

Water Supply Demand and Environmental Effects (Standards of Significance 1 and 3)

Impact 3.9.2.1 Implementation of the proposed project would result in an increased demand for water supply in the city. However, adequate water supply sources exist. This impact is **less than significant**.

As stated previously, according to the 2004 Water System Master Plan, the City's water system currently has capacity for 3,272 connections or a population of 8,110 (Orland 2004, p. 4-1). Based on existing conditions, the city will not reach this population until 2018.

Westside Annexation Area

Future development of new uses in the Westside Annexation Area may result in impacts to the City's water supply. Based on the development potential shown in **Table 2.0-1**, the Westside Annexation Area could result in 1.7 acres of new commercial uses. According to the Orland Public Works Department, the current average daily water demand per commercial HUE is 3,985 gpd (Orland 2014b). Using this factor, the Westside Annexation Area has the potential to result in a commercial water demand of 3,985 gpd.[7] The City's current water supply capacity is approximately 5,130 gpm or 7,387,200 gpd. The Westside Annexation Area's new commercial water demand of 3,985 gpd would not result in the need for additional water supply. Additionally, no development projects are currently proposed for the Westside Annexation Area, and annexation does not require the connection to the City water system for existing uses. As such, the Westside Annexation Area would have a **less than significant** impact on water supply.

[7] Commercial demand: 3,985 gpd per parcel X 1 parcel = 3,985 gpd

Pilot Flying J Project

Development of the Pilot Flying J Travel Center would increase the demand for water in the city. The proposed Travel Center would allow the development of 12,964 square feet of commercial uses, a nine-lane diesel fuelling station, a two-lane RV fueling station, and a 12-pump gasoline fueling station. The Travel Center is anticipated to have a water demand of approximately 9,000 gallons per day based on other travel center projects. The City has determined that current water supplies are adequate to serve the Travel Center and it would not result in the increase of groundwater pumping beyond the City's current estimates (Orland 2014c).

The proposed Pilot Flying J Travel Center would be subject to the water conservation requirements of General Plan Policy 5.7.B, which requires the efficient use of water in the City's Planning Area by promoting the use of water-conserving devices for new construction and major renovations (Program 5.7.B.1). Additionally, the Pilot Flying J Travel Center would be subject to the water conservation practices identified in the City's Water Conservation and Shortage Plan.

As the City's existing water supply has been determined to be sufficient to serve the Pilot Flying J project, this impact would be **less than significant**.

Mitigation Measures

None required.

Water Supply Infrastructure (Standard of Significance 2)

Impact 3.9.2.2 Implementation of the proposed project would increase demand for water service in the area and thus require additional water supply infrastructure that may result in a physical impact to the environment. This impact is **less than significant**.

Westside Annexation Area

Existing 10-inch water lines are located in County Road HH and a portion of Newville Road. These lines are adequately located to serve all areas of the Westside Annexation Area. Any new development will be required to connect to the existing pipelines located in County Road HH and Newville Road at the time of new construction. Any new pipelines on a project site would be the responsibility of the project developer at the time of construction. Because current City water pipelines exist adjacent to any potential new development in the Westside Annexation Area, the lines would only need to be extended from the existing lines in the roadways onto the future project site and therefore would have little or no off-site impacts or impacts to the City's water infrastructure. However, as no development projects are currently proposed for the Westside Annexation Area, existing water lines are located in the Westside Annexation Area, and annexation does not require connection to the City water system for existing uses, the Westside Annexation Area would have **no impact** on water infrastructure.

Pilot Flying J Project

The Pilot Flying J Travel Center would connect to the existing City 10-inch water main located in County Road HH. All other water lines (fire, domestic, and irrigation) to serve the Pilot Flying J Travel Center would be located on the site and constructed as part of the Travel Center.

The construction of water infrastructure on the site or in the public right-of-way would result in limited, temporary effects on the environment. The primary environmental effects associated with construction of these improvements would be increased noise levels, greenhouse gas emissions, and other air quality pollutants, each of which are discussed in other sections of this Draft EIR. The City has stated that the Pilot Flying J Travel Center can be provided with water service using the City's current water system (Orland 2014c). No expansion or alteration of water treatment facilities would be necessary.

Because the Pilot Flying J Travel Center would not require the alteration or expansion of the City's water infrastructure or treatment facilities, it would have a **less than significant** impact in this area.

Mitigation Measures

None required.

3.9.2.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting encompasses the growth assumed in Orland for the year 2028 as defined in the General Plan. The 2014 Water System Capacity Study identified a 20-year growth forecast for water demand. According to this study, if the General Plan high growth scenario would occur, the total number of active water service connections in the year 2028 will be approximately 4,615 and use approximately 7,110 gallons per minute (gpm) of water. The City's existing source capacity of approximately 5,130 gpm would need to be increased by 1,980 gpm to meet Orland's maximum daily demand under the high growth rate scenario, and an additional 1,500 gpm should be planned in the capacity upgrades to address coincident fire flow demand (Orland 2014a, p. 4-1). The City is currently in the process of acquiring additional groundwater by applying for funding through the State's Revolving Fund for the development of the proposed Eva Drive Well. At this time, the proposed Eva Drive Well is expected to produce between 1,000 gpm and 1,250 gpm of water. Accounting for the Eva Drive Well, the City has an anticipated need for two additional wells by the year 2028 (Orland 2014, p. 4-1).

Orland's actual average annual growth rate between 2000 and 2014 was 1.4 percent. Using this growth rate, the 2028 population would be 9,334. Using the connection factor identified in the Water System Capacity Study of one connection per 2.66 persons, a population of 9,334 would have 3,509 connections. This would result in a water demand of approximately 5,404 gpm.[8] The City would still need to increase the water supply by 274 gpm by 2028 if the current growth rate of 1.4 percent annually were to continue.

Cumulative Water Supply

Impact 3.9.2.3 Implementation of the proposed project, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the cumulative setting, would increase the cumulative demand for water supplies and related infrastructure. The Westside Annexation Area and

[8] Using the water demand ratio of 7,110 gpm for 4,615 connections (equates to 1.54 gpm per connection) X 3,509 connections = 5,404 gpm)

proposed Pilot Flying J project contribution toward the cumulative water demand is **less than cumulatively considerable**.

Currently, the City of Orland does not have sufficient groundwater pumping ability to meet the projected 2028 demand. This would potentially require two additional wells, assuming that the Eva Drive Well is completed.

The City completed the Water System Capacity Study to provide a comprehensive document regarding the water system, including supply, storage, distribution, and demands based on existing and future conditions in the city. This study, among other things, prepared a Capital Improvement Program that identifies a prioritized schedule of recommended improvements and replacement of facilities. Additionally, the study developed cost estimates to complete the recommended Capital Improvement Program and identified the impact on operating and connection fee revenues. The study determined that the cost for two new wells in the city would be approximately $1,160,400 each (Orland 2014a, pp. 5-4 and 5-5). The City charges water system capacity and connection fees on all new development. These fees are used to maintain existing facilities as well as to acquire future water sources such as a new well. All new future development in the Westside Annexation Area, as well as the proposed Pilot Flying J project, would be required to pay the water system fees and assist in reducing the potential financial impact of developing a new water source.

The Westside Annexation Area has the potential to result in a commercial water demand of 3,985 gpd (0.004 mgd). According to the Water System Capacity Study, in 2028 Orland has a potential demand of 7,110 gpm or 10.2 mgd. The Westside Annexation Area's potential water demand represents less than 0.04 percent of the potential 2028 water demand, which would not be cumulatively considerable. Therefore, this impact is **less than cumulatively considerable**.

The proposed Pilot Flying J Travel Center has the potential to result in a commercial water demand of 9,000 gpd (0.009 mgd). This demand represents less than 0.09 percent of the potential 2028 water demand, which would not be cumulatively considerable. Therefore, this impact is **less than cumulatively considerable**.

Mitigation Measures

None required.

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3.10 Effects Found Not to Be Significant

This section is based on the Notice of Preparation (NOP), dated October 31, 2014, and contained in **Appendix 1.0** of this Draft Environmental Impact Report (Draft EIR; DEIR). The NOP was prepared to identify the potentially significant effects of the proposed project and was circulated for public review between October 31, 2014, and November 29, 2014. In the course of this evaluation, certain impacts were found to be less than significant because the characteristics of the proposed project would not create such impacts. This section provides a brief description of effects found not to be significant or less than significant, based on the NOP comments or more detailed analysis conducted as part of the EIR preparation process. Note that a number of impacts that are found to be less than significant are addressed in the various Draft EIR topical sections (Sections 3.1 through 3.9) to provide more comprehensive discussion as to why impacts are less than significant, in order to better inform decision-makers and the general public.

3.10.1 AESTHETICS

The Orland General Plan does not identify any areas considered to be scenic vistas that need to be protected and preserved in the city. Additionally, the Westside Annexation Area and the Pilot Flying J site are not considered to be in an area of significant visual qualities, nor do they have any significant visual features. There are no state or locally designated scenic highways in the project area.

The visual character of the project area and surroundings is a combination of commercial development to the north, Interstate 5 to the east, and rural development to the west and south. The Pilot Flying J site and surrounding parcels are designated as Commercial in the Orland General Plan and either Highway and Visitor Service Commercial, Service Commercial, or Suburban Residential in the Glenn County General Plan. The Pilot Flying J project would be consistent with the Orland General Plan land use designation and the Glenn County General Plan land use designation for the site.

The proposed Pilot Flying J Travel Center and development potential of the Westside Annexation Area would introduce new sources of light and glare to the area, primarily due to parking area and exterior building lighting required to ensure safety. All future development would be subject to Orland Municipal Code Section 17.44.110, which requires the shielding of lighting to prevent illumination of the adjacent properties and to prevent glare or direct illumination of public streets, highways, and Interstate 5, limits the height of light poles to the height of the main building, and requires suitable lights to properly illuminate any parking area.

Based on the lack of identified scenic views, the lack of a state-designated scenic highway, and the lighting requirements of the Municipal Code, the proposed project would not adversely affect daytime or nighttime views in the area. Therefore, the proposed project would have no impact on aesthetics.

3.10.2 AGRICULTURAL AND FOREST RESOURCES

Future development of the Westside Annexation Area could result in impacts to agricultural resources, as one of the parcels has land considered Prime Farmland or Farmland of Statewide Importance. However, this parcel is prezoned as Open Space, as the City does not have an agricultural zoning district. Therefore, agricultural uses can continue and not result in a loss of farmland. Any future development not consistent with the Open Space land use designation on this land would require a rezone and be subject to further environmental review, including for any impacts to agricultural resources.

The Pilot Flying J site has Glenn County zoning of Highway and Visitor Commercial and does not contain any active agricultural uses or forestland, not does it support trees that could be commercially harvested. The California Department of Conservation's (DOC) (2014a) online Important Farmland Finder mapping program identifies the site as Farmland of Local Importance. The DOC (2014b) also shows that the site and all surrounding adjacent lands are not under Williamson Act contracts. While the site is identified as Farmland of Local Importance, this category of farmland does not meet the standard of significance presented in CEQA Appendix G. Appendix G states that the loss of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be considered a significant impact. Additionally, the development of the proposed Travel Center would not result in the conversion of farmland to a non-farmland use. The conversion of farmland is generally attributed to the development of residential units next to an operating farm, which may result in conflicts between the residential uses and agricultural uses. The Travel Center does not propose any residential uses. Additionally, the extension of public utilities, such as water and sewer infrastructure, may result in further urban development and thus convert farmland. However, infrastructure for both water and sewer already exists in the roadways adjacent to the site and would be available to properties surrounding the site whether the Travel Center is developed or not. Therefore the Travel Center would not result in the conversion of farmland or convert forestland to non-forest use. No impacts would occur.

3.10.3 GEOLOGY, SEISMICITY, AND SOILS

According to the Orland General Plan Update EIR, the primary seismic hazard associated with the Orland Planning Area is minor ground shaking. The Planning Area is not located within an Alquist-Priolo earthquake hazard zone. The closest active fault system is the 40-mile-long Willows fault, located about 10 miles west of the city. As such, future seismic events associated with this fault system are not anticipated to adversely affect the Planning Area, and ground rupture due to faulting is considered to be unlikely (Orland 2010b, p. 4.6-20). Because the proposed Westside Annexation Area and Pilot Flying J Travel Center are located in an area determined to have a low chance of seismic hazard and all projects in Orland are required to comply with the seismic building standards of the California Building Code, the potential for impacts resulting from seismic activity (i.e., ground shaking, liquefaction, and landslides) is considered less than significant.

The Orland Planning Area, which includes the Westside Annexation Area and the Pilot Flying J site, is identified as having a low potential for subsidence (Orland 2010b, p. 4.6-9). General Plan Policy 4.6.A and Program 4.6.A.1 require the City to consider the potential for expansive soils and earthquake-related hazards when reviewing applications for development projects. As a result, the City requires a soils report in order to evaluate the shrink-swell and liquefaction potential of proposed project sites and to implement measures to minimize unstable soil hazards.

Future grading and site preparation activities associated with the development potential within the Westside Annexation Area and the Pilot Flying J Travel Center would remove topsoil, disturbing and potentially exposing the underlying soils to erosion from a variety of sources, including wind and water. However, the Pilot Flying J site is flat, which would reduce the potential for substantial erosion. Because construction and the resulting potential erosion may affect water quality, any development involving clearing, grading, or excavation that causes soil disturbance on 1 or more acres is subject to a National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit. The development potential in the Westside Annexation Area and the proposed Pilot Flying J Travel Center would be required to prepare and comply with an approved stormwater pollution prevention plan (SWPPP). The flat topography of the site and compliance with this requirement would reduce potential erosion impacts to a less than significant level.

The proposed Westside Annexation Area and the Pilot Flying J Travel Center are located in an area that is relatively flat, so landslides would not occur. There are no large bodies of water near the area including the ocean, so the possibility of seiches or tsunamis would be nonexistent.

The potential Westside Annexation Area development and Pilot Flying J Travel Center would be connected to the City's sewer system. No septic system would be used. There would be no impact in this area.

3.10.4 HYDROLOGY AND WATER QUALITY

Any future development in the Westside Annexation Area and the proposed Pilot Flying J Travel Center would be required to prepare and comply with an approved SWPPP. Compliance with this requirement would reduce the potential water quality impacts to less than significant. Additionally, the Pilot Flying J storm drain system would be designed to limit peak runoff during the 10-, 25-, and 100-year storm events to predevelopment levels or below. The Travel Center's storm drain system would include perforated piping in a trench that would be sized and backfilled with drain rock, wrapped in filter fabric, to accomplish three purposes: (1) allow runoff to infiltrate into the ground based on predetermined infiltration rates; (2) provide adequate storage so any runoff that leaves the property can be metered at a rate not exceeding predevelopment rates; and (3) use a rock and filter fabric system that would serve to treat runoff to improve its quality.

The City of Orland uses groundwater as the source for potable water in the city. This groundwater is extracted from the Colusa Groundwater Subbasin, part of the Sacramento Valley Groundwater Basin. The California Department of Water Resources (DWR) (2006, p. 4) Bulletin 118 identified the Colusa Subbasin groundwater supply as follows: "Generally, groundwater level data show an average seasonal fluctuation of approximate 5-feet for normal and dry years. Overall there does not appear to be any increasing or decreasing trends in groundwater levels."

Future potential development of the Westside Annexation Area and the proposed development of the Pilot Flying J Travel Center would increase the demand for groundwater in the city. The Pilot Flying J is anticipated to have a water demand of approximately 9,000 gallons per day (gpd). The City has determined that current water supplies are adequate to serve this development, and the Travel Center would not result in the increase of groundwater pumping beyond the City's current estimates. A theoretical estimate for the water demand of potential new commercial uses in the Westside Annexation Area has been determined to be 3,985 gpd, as shown in Section 3.9, Utilities. Because the actual water demand for the Westside Annexation Area cannot be definitively characterized, as no development has been proposed for this area, it cannot be determined whether the Westside Annexation Area will require the expansion of groundwater pumping in the city to serve future projects. According to the City's (2014) Water Supply Capacity Study, Orland will need a total of three new wells by 2028 to supply water to the projected population at that time. The development of new water sources would require future environmental review.

Additionally, the proposed development of the Pilot Flying J site and future development potential of the Westside Annexation Area would have the potential to remove 9.2 acres of potential groundwater recharge area due to the development of this area with impervious surfaces. However, according to the Orland General Plan Update EIR, the majority groundwater recharge in the city comes from Stony Creek (Orland 2010, p. 4.7-23). Development of this area would not affect the recharge ability of Stony Creek. Additionally, the development of 9.2 acres would not substantially deplete groundwater supplies or interfere substantially with groundwater

recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. Therefore, the project would have a less than significant impact on groundwater supply or recharge.

The Westside Annexation Area and Pilot Flying J site do not have any streams, creeks, or rivers on-site. For the Pilot Flying J, all on-site stormwater runoff would be directed into the Travel Center's storm drainage system. All new development in the area would be required to comply with City storm drainage regulations. Because the Westside Annexation Area and Pilot Flying J site do not have any existing waterways, development of this area would not result in the alteration of an existing natural drainage patterns that would result in substantial erosion or siltation on- or off-site. There would be no impact in this area.

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps 06021C0165D and 0621C0400D, the project area is not located in a flood zone. While the Orland Planning Area has been identified as having the potential for dam inundation as a result of the failure of Black Butte Dam, the Orland General Plan Update DEIR determined that Black Butte Dam was in good condition. Therefore, an event such as the failure of Black Butte Dam has an extremely low probability (Orland 2010b, p. 4.7-26). As such, the potential for flooding impacts would be less than significant.

3.10.5 MINERAL RESOURCES

According to the City of Orland General Plan Update Draft EIR, no mineral resource zones have been designated within the boundaries of the Orland Planning Area. Neither the City's existing General Plan nor the Glenn County General Plan identifies any mineral resources in the Planning Area (Orland 2010b, p. 4.6-10). Therefore, no impacts would occur to mineral resources.

3.10.6 POPULATION AND HOUSING

The development potential of the Westside Annexation Area (44,000 square feet of commercial uses) may result in an increase of population as potential new employees and their families move to the area. However, this increase would not be substantial. The US Department of Energy has identified the average square footage per employee for different types of industrial and commercial uses. For example, for lodging, the average square footage per employee is 1,124 square feet (USGBC 2008). If the 44,000 square feet of new commercial uses were to develop as a hotel, the number of employees would be approximately 39. If the commercial use was developed as a grocery store, the number of employees would be 47. Assuming at least a portion of these employees would come from the surrounding area, the potential for a substantial population increase would be less than significant. Additionally, no development projects have been proposed for this area. Finally, no housing is proposed to be removed in the Westside Annexation Area.

The Pilot Flying J Travel Center would not increase the population or the amount of housing in Orland. The Travel Center would include the development of a fueling station and convenience store and would not produce residential units. While the Pilot Flying J Travel Center is projected to employ approximately 75 people, the majority of these employees are anticipated to already live in the surrounding community. Therefore, the Travel Center would not result in people moving into the area. Additionally, the site is currently vacant and therefore would not result in the displacement of persons or the removal of housing units.

3.10.7 PUBLIC SERVICES

Public services include fire protection, police protection, parks and recreation, and schools. Generally, impacts in these areas are related to an increase in population from a residential development. Levels of service are generally based on a service to population ratio, except for fire protection, which is usually based on a response time. For example, in Orland, the Police Department seeks to maintain an officer per citizen ratio of 1.9 sworn officers per 1,000 residents (Orland 2010b, p. 4.11-9). Further, in 2003, the Orland City Council set the park dedication standard at 8.4 acres per 1,000 residents (Orland 2010b, p. 4.11-20). Finally, the average response time for fire protection and emergency medical services in Orland is 3 to 5 minutes for arrival at the station, approximately 1 minute to prepare and leave the station, and an additional 2 to 3 minutes to the actual call site (Orland 2010b, p. 4.11-2).

The Westside Annexation Area includes three existing single-family homes. The existing three homes would not result in a significant impact to public services. While implementation of the Pilot Flying J Travel Center may result in increased calls for both fire and police services, the increase in calls is not anticipated to contribute to the need for the construction or expansion of fire or police facilities. Because the proposed Pilot Flying J Travel Center and the development potential within the Westside Annexation Area would be commercial developments, not residential, these uses would not have an impact on parks and recreation and/or school facilities. While the Pilot Flying J Travel Center is projected to employ 75 persons, these employees are anticipated to come from the surrounding areas and therefore the Travel Center would not increase the area's population. The Pilot Flying J would have no impact on public services.

The Pilot Flying J site and the Westside Annexation Area are currently served by the Orland Rural Fire Protection District. Annexation by the City would require the detachment of the Orland Rural Fire Protection District for the area and attachment to the Orland Fire Department. The annexed area would then be served by the Orland Fire Department. Orland Fire Department is located at 810 Fifth Street, less than a mile from the Pilot Flying J site. The annexed parcels would be within the Orland Fire Department's average response times. As such, development of the site would not require a new station or expansion of the existing fire station. The Pilot Flying J Travel Center would have a less than significant impact on fire protection services.

3.10.8 OTHER UTILITIES

The development potential of the Westside Annexation Area (44,000 square feet of new commercial uses) may result in impacts to other utilities, including natural gas, electrical, telephone and cable services, storm drainage, and/or solid waste. Natural gas, electrical, and telephone and cable facilities are available in the area. While no specific development projects have been proposed for the Westside Annexation Area, any new future development would be required to comply with the City's storm drainage requirements, which have been implemented to decrease potential impacts to the storm drainage system.

Other utilities, including natural gas, electrical, telephone, and cable services, would be extended to proposed development by the applicable utility company. Natural gas service and electricity for the area is provided by Pacific Gas and Electric Company (PG&E). A multitude of local and long-distance phone service providers serve the project area. Installation of telephone infrastructure would be through AT&T. Storm drainage is proved by the City of Orland.

Existing electrical facilities are located on County Road HH, Newville Road, and the Interstate 5 on-ramp. Existing natural gas pipelines are located on County Road HH and County Road 13

adjacent to the Pilot Flying J site. Telephone lines are also located on County Road HH and County Road 13. Development of the Pilot Flying J Travel Center would not require the expansion of these facilities or any off-site improvements. There would be no impact to these facilities.

Storm drainage pipes are located in Newville Road and the Interstate 5 on-ramp adjacent to the site. Development of the Pilot Flying J Travel Center would not require the expansion of the City's storm drain facilities or any off-site improvements. There would be no impact to these facilities. The Pilot Flying J Travel Center storm drain system would be designed to limit peak runoff during the 10-, 25-, and 100-year storm events to predevelopment levels or below. The Travel Center's storm drain system would include perforated piping in a trench that would be sized and backfilled with drain rock, wrapped in filter fabric, to accomplish three purposes: (1) allow runoff to infiltrate into ground based on predetermined infiltration rates; (2) provide adequate storage so any runoff that leaves the property can be metered at a rate not exceeding predevelopment rates; and (3) use a rock and filter fabric system that would serve to treat the runoff to improve the quality of the runoff.

The City of Orland is a member of the Glenn County Waste Management Regional Agency. The California Department of Resources Recycling and Recovery (CalRecycle) provides solid waste disposal and recycling information for jurisdictions in the state, including the Glenn County Waste Management Regional Agency. According to CalRecycle (2014), 99 percent of all solid waste in the county was disposed of at the Glenn County Landfill. The landfill is located at the west end of County Road 33, near Artois. This landfill is the only waste disposal area in Glenn County.

The Glenn County Landfill has a cease operation date of July 1, 2016. Total capacity of the landfill is 2,400,000 cubic yards. The remaining capacity, as of June 8 2010, was 348,223 cubic yards. The maximum tonnage per day permitted is 200 tons (CalRecycle 2014). According to CalRecycle (2014), the employees solid waste category (which is an average of all nonresidential solid waste generated in a community divided by the number of employees in a community) in Glenn County (including Orland and Willows) disposed of an average 13.2 pounds per day of solid waste in 2012. Based on this information, the Pilot Flying J Travel Center would produce approximately 990 pounds (13.2 pounds per employee per day x 75 employees = 990 pounds per day) or 0.5 tons per day.

The Pilot Flying J Travel Center and any new commercial uses in the Westside Annexation Area are required to comply with all state, county, and city regulations for solid waste disposal. The addition of solid waste to the landfill resulting from development of the project would not increase the tonnage beyond the landfill's permitted amount or result in the closure of the landfill prior to the anticipated 2016 date. During 2012, solid waste coming from the county was also disposed of at eight other solid waste disposal facilities. Upon the closure of the Glenn County Landfill, these other landfills would be used to dispose of solid waste produced in Glenn County, including the proposed Pilot Flying J Travel Center's waste. As a result, development of the proposed project would have a less than significant impact to solid waste disposal.

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4.0 ALTERNATIVES

The alternatives analysis consists of the following components: an overview of California Environmental Quality Act (CEQA) requirements for alternatives analysis, descriptions of the alternatives evaluated, a comparison between the anticipated environmental effects of the alternatives and those of the proposed project, and identification of an "environmentally superior" alternative.

4.1 CEQA REQUIREMENTS FOR ALTERNATIVES

The CEQA Guidelines require that an environmental impact report (EIR) describe a reasonable range of alternatives to a project that would feasibly attain the basic project objectives but would avoid or substantially lessen one or more of the project's significant effects (CEQA Guidelines Section 15126.6(a)).

In addition, Sections 15126.6(a) and (b) of the CEQA Guidelines require the consideration of alternatives that could reduce or eliminate any significant adverse environmental effects of the proposed project, including alternatives that may be more costly or could otherwise impede the project's objectives. The range of alternatives considered must include those that offer substantial environmental advantages over the proposed project and may be feasibly accomplished in a successful manner considering economic, environmental, social, technological, and legal factors. The CEQA Guidelines also require analysis of a "No Project" alternative and identification of the environmentally superior alternative among those analyzed.

4.2 DEVELOPMENT OF PROJECT ALTERNATIVES

This section discusses the reasoning for selecting the alternatives and summarizes the assumptions identified for the alternatives. The range of alternatives included for analysis in an EIR is governed by the "rule of reason." The primary objective is formulating potential alternatives and choosing which ones to analyze to ensure that the selection and discussion of alternatives fosters informed decision-making and informed public participation. This is accomplished by providing sufficient information to enable readers to reach conclusions themselves about such alternatives. This approach avoids assessing an unmanageable number of alternatives or analyzing alternatives that differ too little to provide additional meaningful insights about their environmental effects. The alternatives addressed in this Draft EIR were selected in consideration of one or more of the following factors:

- The extent to which the alternative would accomplish most of the basic objectives of the project.
- The extent to which the alternative would avoid or reduce any of the identified significant effects of the project.
- The feasibility of the alternative, taking into account site suitability and parcel sizes, and consistency with applicable public plans, policies, and regulations.
- The appropriateness of the alternative in contributing to a reasonable range of alternatives necessary to permit a reasoned choice.

The alternatives analyzed in this DEIR were ultimately chosen based on each alternative's ability to feasibly attain the basic project objectives while avoiding or reducing one or more of the project's significant effects. The analysis provides readers with adequate information to compare the effectiveness of identified mitigation or significant adverse impacts and to enable readers to make decisions about the project. CEQA requires EIRs to address a reasonable range of reasonable alternatives, not all potential alternatives.

PROJECT OBJECTIVES

As noted above, an EIR must describe a reasonable range of alternatives to a project that would feasibly attain the basic project objectives while avoiding or reducing one or more of the project's significant effects (CEQA Guidelines Section 15126.6(a)). In identifying the range of alternatives for analysis in this EIR, the following objectives were considered:

- To provide a logical area of annexation that could be served by existing City infrastructure.
- To develop a multi-bay travel plaza on 9 acres within the City of Orland.
- To develop the project in a location that is immediately adjacent to Interstate 5 (I-5) and State Route 32 (SR 32).
- To provide a multi-bay travel plaza that is clearly visible to travelers on I-5 and those entering I-5 from SR 32.
- To provide a multi-bay travel plaza in a location that abuts a full interchange with on- and off-ramps designed to accommodate tractor trailers for easy access to the project.
- To develop a project that will allow efficient circulation to and from, both north- and southbound I-5, SR-32, and downtown Orland.
- To develop a project that will serve professional truck drivers, the travelling public, and local residents of Orland with a fueling facility, convenience store, and restaurant.

SUMMARY OF SIGNIFICANT AND UNAVOIDABLE IMPACTS

The analysis presented in the technical sections of this DEIR (Sections 3.1 through 3.9) determined that the following significant and unavoidable impacts would result from implementation of the proposed project:

Noise

Impact 3.7.1 Operation of the proposed project would generate increased local traffic volumes that would cause a substantial permanent increase in ambient noise levels in the project vicinity. Because no feasible mitigation is available to reduce this impact to a less than significant level, this impact would be considered **significant and unavoidable.**

Impact 3.7.2 Implementation of the proposed project would not result in on-site noise levels that would exceed the City's applicable noise standards. However, the project would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project due to on-site noise sources. As there is no feasible mitigation available to reduce the increase in on-site noise levels, this impact would be **significant and unavoidable**.

Impact 3.7.5 Long-term operation of the proposed project would result in a substantial contribution to cumulative noise levels. Because no feasible mitigation is available to reduce this impact to a less than significant level, this impact would be considered **cumulatively considerable** and **significant and unavoidable.**

Traffic and Circulation

Impact 3.8.6 Implementation of the proposed project, along with other traffic generated by existing and future development in the project area in Year 2028, would increase traffic in the project area. This is a **cumulatively considerable** impact.

Impact to Level of Service on Newville Road Between SB I-5 and NB I-5 Ramps Based on Daily Traffic Volume: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development in Orland will result in total daily traffic volumes on Newville Road that exceed the level of service (LOS) C standard for a two-lane arterial. This is a significant impact. However, because the forecast daily traffic volumes remain above the LOS C threshold, this impact will remain and is considered to be **cumulatively considerable** and **significant and unavoidable**.

Impact to Level of Service on Newville Road Between Ninth Street and Eighth Street Based on Daily Traffic Volume: The addition of project-generated automobile and truck traffic and cumulative background traffic resulting from other development in Orland will result in total daily traffic volumes on Newville Road that exceed the LOS C standard for a two-lane arterial. This is a significant impact. Because the forecast daily traffic volumes remain above the LOS C threshold, this impact will remain and would be considered to be **cumulatively considerable** and **significant and unavoidable**.

4.3 ALTERNATIVES CONSIDERED BUT REJECTED

CEQA Guidelines Section 15126.6(c) states that an EIR should identify any alternatives that were considered but rejected as infeasible by the lead agency during the scoping process, and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are (1) failure to meet most of the stated project objectives; (2) infeasibility; and (3) inability to avoid significant environmental impacts. The alternatives discussed below were considered but rejected from further analysis in the EIR.

Off-site alternatives are generally evaluated in an environmental document to avoid, lessen, or eliminate the significant impacts of a project by considering the proposed development in an alternate location. To be feasible, development of off-site locations must be able to fulfill the project purpose and meet most of the project's stated objectives.

Alternative Site #1

Alternative Site #1 is located on Bungalow Road/County Road 16 west of Interstate 5. This 12-acre site (APN 045-240-012) is directly north of the Orland Estates mobile home park. The site is in Glenn County's jurisdiction and is within the City of Orland Planning Area. The current Glenn County General Plan land use designation is Suburban Residential and the zoning is Rural Residential Estate (RE-1). The City of Orland General Plan land use designation for this site is split

between Light Industrial/Commercial and Low Density Residential. The site does not have an Orland zoning designation, as it is outside of the existing city limits. Prezoning for the site would be Commercial Highway (C-H).

As with the proposed Pilot Flying J project, in order to provide City services to the site, the site would require annexation by the City of Orland. This annexation would also require the annexation of, at the very least, the property directly east of Alternative Site #1, as state law does not allow the annexation of island parcels.

The parcel directly east of Alternative Site #1 (APN 045-240-002) is approximately 10 acres in size and has the Glenn County General Plan land use designation of Highway and Visitor Service Commercial and the zoning designation of Highway and Visitor Commercial. The parcel does not have an Orland zoning designation, as it is outside of the existing city limits. Prezoning for this parcel would be Commercial Highway (C-H).

In total, Alternative Site #1 would require the annexation of approximately 22 acres by the City of Orland.

TABLE 4.0-1
ALTERNATIVE SITE #1 LAND USE

APN	Acres	General Plan Land Use Designation		Zoning/Prezoning	
		Glenn County	City of Orland	Glenn County	City of Orland
045-240-012	±12	Suburban Residential	Light Industrial/ Commercial and Low Density Residential	Rural Residential Estate (RE-1)	Commercial Highway (C-H)
045-240-002	±10	Highway and Visitor Service Commercial	Commercial	Highway and Visitor Commercial (HVC)	Commercial Highway (C-H)

Alternative Site #1 was rejected for consideration as an alternative for the following reasons:

- Land identified as Prime Farmland and Farmland of Statewide Importance by the California Department of Conservation would be lost from agricultural use.
- This site is directly adjacent to an existing residential area.
- Development of the project on this site would bring additional traffic loads on Bungalow Road/County Road 16, which may cause traffic impacts, noise impacts, and air quality impacts that would directly affect the neighboring residential area.
- The site is not flat and would require leveling, which would cause additional impacts.
- Development of the site would require a General Plan Amendment to change a portion of the site from Low Density Residential to Commercial.
- Project circulation would require automobile ingress and egress to use the same driveways as the semi trucks, as the site has only one adjacent roadway.

- The County Road 16 bridge over Interstate 5 may not be of adequate width to accommodate the additional semi trucks and may require widening of the bridge, which would also cause additional impacts.

- The site is not adjacent to Interstate 5 and therefore would not have the sight value of the proposed Pilot Flying J project site and would not meet the objectives of the Pilot Flying J project.

Alternative Site #2

Alternative Site #2 is located south of South Street/County Road 16 east of Interstate 5 and west of Cortina Drive in Orland. This site is directly south of the existing Shell station located on South Street. Alternative #2 would include two parcels. This is because only one of the parcels has direct access to Cortina Drive but is not of adequate size to accommodate the Pilot Flying J project. While the other parcel is of adequate size, it does not have access to Cortina Drive, which provides the only access to the area. As such, Alternative Site #2 is composed of two parcels with a total of approximately 16.3 acres. Access to the site would be from Cortina Drive via South Street.

The City of Orland General Plan land use designation for this site is Light Industrial/Commercial. Zoning for the site is Planned Development (P-D).

TABLE 4.0-2
ALTERNATIVE SITE #2 LAND USE

APN	Acres	City of Orland	
		General Plan Land Use Designation	Zoning District
040-310-013	±5.6	Light Industrial/Commercial	Planned Development (P-D)
040-350-003	±10.7	Light Industrial/Commercial	Planned Development (P-D)

Alternative Site #2 was rejected for consideration as an alternative for the following reasons:

- Location of the site would require the use of Cortina Road, which is a cul-de-sac, allowing only one ingress/egress to the site.

- Project circulation would require automobiles to use the same driveways as semi trucks, as the site only has one access point to Cortina Road.

- The north and southbound entry ramps to Interstate 5 from County Road 16, while adequate for light semi truck use and the addition of a potential 400 truck trips using these ramps, as they are currently designed, requiring a left hand turn onto the ramp, are not considered to be optimal. As such, a redesign of these ramps may be required with project implementation.

- The County Road 16 bridge over Interstate 5 may not be of adequate width to accommodate the additional semi trucks and may require widening of the bridge, which would also cause additional impacts.

4.4 ALTERNATIVES DESCRIPTIONS AND ANALYSIS

DESCRIPTION OF ALTERNATIVES

Alternative 1: No Project

CEQA Guidelines Section 15126.6(e) requires that a No Project alternative be evaluated in an EIR. In the case where the project is a development project on identifiable property, such as with the proposed project, the No Project analysis must discuss the circumstance under which the project does not proceed. The comparison is that of the proposed project versus what can reasonably be expected to occur on the properties should the proposed project not be approved. The analysis allows decision-makers to compare the impacts of approving the project with the impacts of not approving the project (CEQA Guidelines Section 15126.6(e)(3)(B)).

It is important to note that the No Project alternative does not necessarily mean the properties will remain in their undeveloped state. If no action is taken on the proposed project, it is reasonable to assume that another project would be proposed at some point in the future consistent with the General Plan and zoning designations. Both the Westside Annexation Area and the Pilot Flying J project site are currently under Glenn County jurisdiction. However, this area is within the City of Orland Planning Area. Therefore, a reasonable assumption would be that the Westside Annexation Area and the Pilot Flying J project site would, at some time in the future, be annexed to the City. As such, Alternative 1 assumes that the City of Orland General Plan land use designations are the land uses for the future.

Table 4.0-3 identifies the current uses and the General Plan land use designations for Glenn County and the City of Orland for the Westside Annexation Area properties and the Pilot Flying J project site. **Table 4.0-3** also shows the assumed use of each of the annexation parcels. These assumed new uses have been determined by considering the existing use and whether that use is consistent with the Orland General Plan for the Commercial land use designation. Based on this, for environmental analysis purposes, it is assumed that Alternative 1 has the potential to result in 501,596 square feet of new commercial uses and eight new residential units. However, the development of these potential new commercial and residential uses would result in the loss of three existing single-family homes, Eagles Hall, an existing gas station, and agricultural land.

TABLE 4.0-3
ALTERNATIVE 1 POTENTIAL LAND USE

APN	Acreage	General Plan Land Use Designation	Potential Assumed Use[1]
045-140-003	0.44	High Density Residential	8 dwelling units
045-140-010	0.40	Commercial	10,545 sq. ft. commercial
045-140-011	0.50	Commercial	13,050 sq. ft. commercial
045-140-012	0.59	Commercial	15,400 sq. ft. commercial
045-170-003	8.50	Commercial	222,150 sq. ft. commercial
045-170-005	9.20	Commercial	240,451 sq. ft. commercial
Total	19.63		8 dwelling units and 501,596 sq. ft. commercial

Note: 1. New assumed use building size is based on a maximum building coverage of 60% as defined in the Orland General Plan for the Commercial land use designation and the maximum number of units per acre for the Residential High Density land use designation.

Alternative 2: Annexation of Pilot Flying J Project Only

Alternative 2 would be the annexation of 9.2 acres by the City of Orland and construction of the proposed Pilot Flying J project. Alternative 2 would not include the five additional parcels proposed for annexation as part of the Westside Annexation Area. This alternative would allow the development of the Pilot Flying J project but not allow future development of the Westside Annexation Area within the City of Orland. Alternative 2 would be the development of Parcel A, as proposed, including the fueling facilities offering 10 diesel lanes, 12 gas lanes, and 2 RV lanes, the 12,964-square-foot commercial building, and other attributes of the Pilot Flying J project, as listed in Section 2.0, Project Description. Parcel B would also be annexed by the City and would be developed with approximately 44,400 square feet of commercial uses.

While the parcels of the Westside Annexation Area could be developed in the future according to the Glenn County General Plan land use designations, these parcels would not connect to or use existing City of Orland utilities and services (i.e., water, sewer, stormwater drainage, police, fire, roadway maintenance).

Alternative 3: Reduced Project Development

This alternative was developed to determine whether specific features of the proposed project could be changed to help reduce impacts specifically related to project size. Alternative 3 would include the five parcels and Parcel B of the Westside Annexation Area and the potential future development related to those parcels based on existing uses and the City of Orland General Plan land use densities for the vacant and agricultural land, as well as a Pilot Flying J project that is roughly 75 percent of the proposed Pilot Flying J project's size.

The Westside Annexation Area would potentially include the uses listed in **Table 4.0-4**.

TABLE 4.0-4
ALTERNATIVE 3 WESTSIDE ANNEXATION AREA LAND USE

APN	Acreage	Potential Assumed Use
045-140-003	0.44	Gas station/convenience store
045-140-010	0.40	Eagles Hall
045-140-011	0.50	Single-family home
045-140-012	0.59	Single-family home
045-170-003	8.50	Single-family home, 209,088 sq. ft. commercial[1]
045-170-005 (Parcel B)	1.70	44,400 sq. ft. commercial[2]
Total	11.69	3 dwelling units, gas station/convenience store, Eagles Hall, and 253,488 sq. ft. commercial

Notes:

1. *Includes the development of 8 acres of agricultural land for commercial uses at a maximum building coverage of 60% as defined in the Orland General Plan for the Commercial land use designation. The remaining 0.5 acre would remain as the existing single-family home.*
2. *Includes the development of 1.7 acres of agricultural land for commercial uses at a maximum building coverage of 60% as defined in the Orland General Plan for the Commercial land use designation.*

The Pilot Flying J project would include:

Facilities

- Fueling facilities offering 7 diesel lanes, 8 gas lanes, and 1 RV lane
- CAT Certified Scales
- A 21.9-foot-tall, 9,720-square-foot commercial building that will include the following:
  - Drivers lounge, game room, and payphones
  - Restroom Facilities, five showers for rent, and public laundry
  - ATMs, Western Union, and check cashing
  - Wi-Fi Internet
  - A 1,940-square-foot retail convenience store
  - A 910-square-foot PJ Fresh Marketplace Deli
  - A 1,955-square-foot Wendy's restaurant
  - A Cinnabon kiosk
- 47 truck parking spaces (allowing overnight parking)
- 46 automobile parking spaces
- A 100-foot-tall pole sign for interstate traffic
- A 38-foot-tall goalpost sign along Newville Road
- Bio shed building (houses a mixing blender used to blend diesel fuel and B100 fuel to sell the biodiesel product)
- Transflo Express (trip documents)

Fuel Storage

- Two aboveground storage tank farms, which include:
  - Six 8,000-gallon diesel fuel aboveground storage tanks
  - Two 8,000-gallon B100 fuel aboveground storage tanks
- One 8,000-gallon diesel exhaust fluid underground tank
- One 3,000-gallon oil water separator underground tank
- One 19,000-gallon gasoline fuel underground storage tank
- One 750-gallon aboveground propane storage tank

Fuel Deliveries

- Five daily diesel fuel deliveries
- One daily gasoline fuel delivery

ANALYSIS OF ALTERNATIVES

Each alternative is compared to the proposed project. The project alternatives are evaluated in less detail than those of the proposed project and the impacts are described in terms of difference in outcome compared with implementing the proposed project. **Table 4.0-5** at the end of this section provides an at-a-glance comparison of the environmental benefits and impacts of each alternative.

Comparative Impacts of Alternative 1: No Project

1. Air Quality

The air quality analysis for the proposed project identified that during construction and operation of the project, air quality emissions would not exceed the Level B significance threshold; however, the Level A significance threshold would be surpassed for emissions of nitrogen oxide (NO_x) and reactive organic gases (ROG). Development projects estimated to exceed Level A significance thresholds must apply all feasible standard mitigation measures and appropriate best available mitigation measures. Application of these mitigation measures (**MM 3.1.2** and **MM 3.1.3**) reduced the air quality construction impacts to a less than significant level.

Alternative 1 would allow the development of 501,596 square feet of commercial uses. This amount of commercial square footage is more than 8.5 times greater than the proposed project. While much of the air quality operational emissions are a result of the large number of trucks using the Pilot Flying J Travel Center fueling facilities, and these facilities are not counted as commercial square footage,[1] Alternative 1's much larger amount of commercial square footage would have a greater impact to air quality than the proposed project.

2. Biological Resources

The biological assessment for the site identified the potential for disturbance to Swainson's hawk and migratory birds, and the potential to impact federally protected wetlands with construction and operation. Alternative 1 would result in site disturbance similar to that of the proposed project for the Pilot Flying J project site. However, for the Westside Annexation Area, the potential biological impacts would be greater with this alternative. While the majority of Alternative 1's parcels have existing development and therefore impacts to biological resources would be similar for any new proposed commercial uses on those parcels, one parcel of approximately 8 acres would result in the conversion of agricultural land to commercial uses. This increased development potential would impact greater numbers of biological resources not affected by the proposed project. It is not known if the impacts to the biological resources on this parcel could be mitigated to a less than significant level without a full biological assessment. As such, the impacts of this alternative would be greater than those of the proposed project.

[1] Only the 12,964-square-foot commercial building of the Pilot Flying J project and the 44,400 square feet of commercial use for Parcel B are counted as commercial square footage for the proposed project. The actual fueling area is not considered commercial square footage for this analysis.

3. Cultural Resources

While no cultural or paleontological resources were identified on any of parcels evaluated for the proposed project, mitigation measures were required to reduce the impacts to undiscovered cultural or paleontological resources. These same measures would be required for any land disturbances under Alternative 1. Because Alternative 1 has a greater potential for future development for those parcels that are not to be developed as a part of the proposed project, the potential for impacting cultural resources in the Westside Annexation Area would also be greater. As with the proposed project, the ability to reduce impacts to a less than significant level with proper mitigation may be possible. However, because the potential impact area is larger in size for Alternative 1 than the proposed project, the potential to impact cultural resources is greater. Thus, Alternative 1 would have a greater impact to cultural resources than that of the proposed project.

4. Climate Change and Greenhouse Gases

The proposed project will generate greenhouse gas (GHG) emissions, as detailed in Impact 3.4.1. However, several State-led GHG emissions–reducing regulations reduce the potential impacts to a less than significant level. Alternative 1 would also be subject to these State-led measures. However, Alternative 1 would result in 501,596 square feet of commercial uses compared to the 57,364 square feet of the proposed project. Alternative 1 would have a much greater amount of commercial development compared to the proposed project and therefore would be expected to result in much higher GHG emissions. As such, Alternative 1 would have a greater impact in this area.

5. Hazards and Hazardous Materials

As identified in Impact 3.5.5, according to the EnviroStor and GeoTracker hazardous materials databases, none of the parcels in the Westside Annexation Area or the Pilot Flying J project site were identified as known hazardous materials sites or hazardous materials spill sites. The parcels of Alternative 1 are the same parcels and as such, this alternative would have the same result regarding hazardous materials sites and hazards from airports or wildfires. Assuming that Alternative 1 would have similar typical commercial uses as the potential future uses of the Westside Annexation Area or the Pilot Flying J project, Alternative 1 would have the same potential for the release of hazardous materials. As such, Alternative 1 would have similar impacts regarding hazards and hazardous materials when compared to the proposed project.

6. Land Use

Implementation of this alternative would require annexation and prezoning by the City of Orland, similar to the proposed Westside Annexation Area and Pilot Flying J project. The change in land use or zoning designations does not, in and of itself, constitute an environmental impact. Only those changes that conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would constitute an environmental impact. In this case, prezoning the Alternative 1 area would bring about consistency between the Orland General Plan land use designation and the zoning for the site and would not result in an environmental impact. As such, Alternative 1 would not result in impacts related to land use and would be similar to those of the proposed project, which also resulted in no impact to land use.

7. Noise

The proposed project would result in significant noise impacts due to the increase in traffic noise in the area. These impacts cannot feasibly be mitigated and therefore would result in cumulatively considerable and significant and unavoidable impacts. Alternative 1 has a much greater potential for commercial development than the proposed project. This greater commercial development would increase the traffic to the area and result in a substantial increase in traffic noise. As with the proposed project, this increase in traffic noise could not be mitigated to a less than significant level. While Alternative 1's noise impacts would be similar to the proposed project's, the substantial difference in commercial square footage and traffic between Alternative 1 and the proposed project would result in a much greater amount of traffic noise. As such, Alternative 1 would have a greater impact in the area of noise than the proposed project.

8. Transportation and Circulation

The proposed project is estimated to result in 4,145 daily vehicle trips for the Pilot Flying J project and 1,907 trips for Parcel B. Assuming the trip ratios are the same for Alternative 1 as they were for Parcel B, Alternative 1 would have 21,539 daily vehicle trips. The proposed project would result in two cumulatively considerable and significant and unavoidable impacts to the existing roadway system as discussed in subsection 4.2 previously. Alternative 1 would have almost 3.5 times as many vehicle trips as the proposed project. Therefore, Alternative 1's impacts to the existing roadway system would be much greater than the proposed project.

9. Utilities

Alternative 1 would result in the development of eight high-density residential units and 501,596 square feet of commercial uses. According to the Orland Sewer Master Plan, commercial uses are equal to 5.4 housing equivalents (HE) per acre, while high-density residential equals 6.4 HE per acre. A housing equivalent is defined in the Sewer Master Plan as an "area that will produce the same amount of wastewater flow as one single family home within a low-density location" (Orland 2009, p. 6). Using these factors, Alternative 1 has the potential to result in 65.9 HEs. In other words, if the Westside Annexation Area were to be developed at its full potential, the area would generate the same amount of wastewater as approximately 106 low-density single-family homes, or 45,686 gallons per day (gpd) under current conditions.[2] This amount, 45,686 gpd, represents approximately 2.2 percent of the existing treatment capacity of the Orland Wastewater Collection and Treatment Facility (WCTF).[3] While this amount of wastewater is more than that of the proposed Westside Annexation Area and the Pilot Flying J project, which is approximately 37,403 gpd, Alternative 1 would also not require expansion of the City's wastewater facilities, as the WCTF has existing capacity to meet this need and wastewater lines are located in the street in the Alternative 1 area. Therefore, Alternative 1 would have a similar effect on the City's wastewater system when compared to the proposed project.

Future development of Alternative 1 may result in impacts to the City's water supply. Based on the development potential shown in **Table 4.0-3**, Alternative 1 could result in 0.44 acres of new housing units and 19.19 acres of commercial uses. According to the Orland Public Works Department, the current average daily water demand per commercial housing unit equivalent

[2] Current wastewater flow per single-family home in the city is 431 gallons per day (Orland 2014). Therefore, 166 single-family homes produce 45,686 gpd (0.03 mgd) of wastewater.
[3] 45,686 gpd/2,100,000 gpd (2.1 mgd) of WCTF treatment capacity X 100% = 2.2%

(HUE) is 3,985 gpd, while the high-density residential HUE is 255 gpd (Orland 2014). Using these factors, Alternative 1 has the potential to result in a commercial water demand of 23,910 gpd and a residential water demand of 2,040 gpd.[4] In comparison, the proposed Westside Annexation Area and Pilot Flying J project would have the potential for a water demand of 30,965 gpd.

Existing water lines are located in the Alternative 1 area, so this alternative would not require the extension of water lines, similar to the proposed Westside Annexation Area and Pilot Flying J project. Under cumulative conditions, in the year 2028, the City is expected to need additional wells to supply anticipated growth. Because Alternative 1 would have less water demand (under theoretical conditions) than the proposed Westside Annexation Area and Pilot Flying J project, and the City anticipates a need for additional wells to serve projected future growth, Alternative 1 would have less impact on water supply than the proposed project.

Comparative Analysis of Alternative 2: Annexation of Pilot Flying J Site Only

1. Air Quality

As stated previously, the air quality analysis for the proposed project identified that during construction and operation of the project, air quality emissions would not exceed the Level B significance threshold; however, the Level A significance threshold would be surpassed for NO_x and ROG emissions. The mitigation measures presented in Section 3.1, Air Quality, reduced these impacts to a less than significant level. Alternative 2 would be the development of the Pilot Flying J project as well as the potential development of 44,400 square feet of commercial uses for Parcel B. The amount of development for Alternative 2 is the same as the proposed project. As such, Alternative 2 would have the same air quality impacts as the proposed project.

2. Biological Resources

The biological assessment for the site identified the potential for disturbance to Swainson's hawk and migratory birds, and the potential to impact federally protected wetlands with construction and operation. Alternative 2 does not include the five annexation parcels. Therefore, impacts to biological resources on these parcels would not occur with this alternative. However, Alternative 2 would result in site disturbance similar to that of the proposed project, as the areas identified for development for the proposed project are the Pilot Flying J project site and the Parcel B site. Overall, the impacts of this alternative would be the same as with the proposed project.

3. Cultural Resources

While no cultural or paleontological resources were identified on any of parcels evaluated for the proposed project, mitigation measures were required to reduce the impacts to undiscovered cultural or paleontological resources. These same measures would be required for any land disturbances under Alternative 2. Alternative 2 is the development of the Pilot Flying J project and does not include the annexation of the Westside Annexation Area. Because Alternative 2 does not include the annexation of the Westside Annexation Area, cultural impacts to the area would remain as existing. However, the proposed project does not include the development of any parcels in the Westside Annexation Area. As such, Alternative 2 would have similar impacts to cultural resources when compared to the proposed project.

[4] Commercial demand: 3,985 gpd per parcel X 6 parcels = 23,910 gpd. Residential demand: 8 units X 255 gpd per unit = 2,040 gpd.

4. Climate Change and Greenhouse Gases

The proposed project will generate significant greenhouse gas emissions, as detailed in Impact 3.4.1. Because Alternative 2 has the same amount of development as the proposed project, the amount of GHG emissions would be the same. As with the proposed project, the GHG emissions attributed to Alternative 2 would be reduced by the State-led GHG emissions–reducing regulations. Overall, Alternative 2 would be expected to result in a similar impact to climate change as the proposed project.

5. Hazards and Hazardous Materials

As identified in Impact 3.5.5, according to the EnviroStor and GeoTracker hazardous materials databases, none of the parcels in the Westside Annexation Area or the Pilot Flying J project site were identified as known hazardous materials sites or hazardous materials spill sites. Alternative 2 only contains one parcel, the Pilot Flying J project site. All of Alternative 2's hazards and hazardous materials impacts would be similar to the Westside Annexation Area and Pilot Flying J project, with the exception of exposure to hazardous materials (Impact 3.5.3). This impact discusses the potential for hazardous materials related to the use of pesticides and herbicides for agriculture on parcels within the Westside Annexation Area. Because Alternative 2 does not include these parcels and the Alternative 2 parcel has not been used for agricultural purposes, this impact would not occur. Therefore, Alternative 2 would have less potential for the exposure to a hazardous material related to agricultural chemicals than the proposed project.

6. Land Use

Alternative 2 would only include the Pilot Flying J project. Implementation of this alternative would require annexation and prezoning of the project site by the City of Orland, similar to the Pilot Flying J portion of the proposed Westside Annexation Area and Pilot Flying J project. The Westside Annexation Area would remain under the jurisdiction of Glenn County with this alternative; thus, no change in land use designations would be required. The change in land use or zoning designations does not, in and of itself, constitute an environmental impact. Only those changes that conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would constitute an environmental impact. In this case, prezoning the Pilot Flying J site would bring about consistency between the Orland General Plan land use designation and the zoning for the site and would not result in an environmental impact. As such, Alternative 2 would not result in impacts related to land use and would be similar to those of the proposed project, which also resulted in no impact to land use.

7. Noise

The proposed project would result in significant noise impacts due to the increase in traffic noise in the area. These impacts cannot feasibly be mitigated and therefore would result in cumulatively considerable and significant and unavoidable impacts. Alternative 2 does not include the annexation of the Westside Annexation Area parcels. Therefore, Alternative 2 has the same development potential as the proposed project. However, because Alternative 2 is the development of the Pilot Flying J project and all of the noise impacts from the proposed project are a result of that development, Alternative 2 would have the same noise impacts as the proposed project.

8. Transportation and Circulation

Alternative 2 would only include the annexation of the Pilot Flying J project site and the Parcel B site by the City. The remaining five parcels of the Westside Annexation Area would remain under Glenn County jurisdiction and be developed under Glenn County allowed uses for those parcels. Alternative 2's Pilot Flying J project would have 4,145 daily vehicle trips and Parcel B would have 1,907 trips, as identified in Section 3.8, Transportation and Circulation. As such, Alternative 2 would have the same traffic-related impacts as the proposed project for these two parcels. However, the cumulative traffic analysis was based on the City of Orland General Plan buildout assumptions as discussed in Section 3.8. Because the Westside Annexation Area, except for Parcel B, would remain under Glenn County jurisdiction for this alternative and the Glenn County General Plan land use designations for the two parcels are Suburban Residential instead of Orland's Commercial designation, the amount of traffic attributed to these two parcels would be less, as the development potential is not as intense.[5] See **Table 2.0-1** for the General Plan land use designations. As such, under cumulative conditions, the traffic impact would be slightly less for Alternative 2 but would be similar under Existing Plus Project conditions.

9. Utilities

Alternative 2 would result in the development of the Pilot Flying J project. The proposed Pilot Flying J project would generate an estimated 9,000 gpd of wastewater during average dry weather flow. Wastewater generated by the project would be conveyed to the City's WCTF for treatment via existing sewer collection facilities located in County Road HH, adjacent to the project site. As described in Section 3.9, Utilities, the addition of 0.009 million gallons per day (mgd) of Pilot Flying J project–generated wastewater would not exceed the capacity of the treatment plant. Because this alternative does not include future development of the Westside Annexation Area and the resultant connection to the City's wastewater facilities, Alternative 2 would have a substantially smaller demand on those facilities. However, the proposed project resulted in a less than significant impact to wastewater facilities. While Alternative 2 would have a reduced demand placed on these facilities, this alternative would also result in a less than significant impact. Therefore, Alternative 2 would have a similar environmental impact on the City's wastewater system when compared to the proposed project.

Alternative 2 is anticipated to have a water demand of approximately 9,000 gallons per day based on other travel center projects. In comparison, the proposed Westside Annexation Area and Pilot Flying J project would have the potential for a water demand of 30,965 gpd.

Existing water lines are located in the Alternative 2 area, so this alternative would not require the extension of water lines, similar to the proposed Westside Annexation Area and Pilot Flying J project. Under cumulative conditions, in the year 2028, the City is expected to need additional wells to supply anticipated growth. Because Alternative 2 would have substantially less water demand than the proposed Westside Annexation Area and Pilot Flying J project, Alternative 2 would have less impact on water supply than the proposed project.

[5] The Glenn County General Plan has a minimum of 1 acre per parcel for the Suburban Residential land use designation. This would allow the development of eight single-family homes for the two parcels. The City of Orland Commercial land use designation allows 60 percent lot coverage, which results in 233,650 square feet of commercial uses for the two parcels.

Comparative Analysis of Alternative 3: Reduced Pilot Flying J Project

1. Air Quality

As stated previously, the air quality analysis for the proposed project identified that during construction and operation of the project, air quality emissions would not exceed the Level B significance threshold; however, the Level A significance threshold would be surpassed for NO_x and ROG emissions. The mitigation measures presented in Section 3.1, Air Quality, reduced these impacts to a less than significant level. Alternative 3 would result in the development of a smaller Pilot Flying J project, which would reduce the air quality emissions attributed to this project. However, Alternative 3 also assumes the development of an additional 209,088 square feet of commercial uses not currently identified for the proposed project. While the decrease of the Pilot Flying J project by 25 percent would reduce the air quality emissions attributed to that project, the increase of 209,088 square feet of commercial uses would outweigh this reduction. As such, Alternative 3 would have a greater air quality impact when compared to the proposed project.

2. Biological Resources

The biological assessment for the site identified the potential for disturbance to Swainson's hawk and migratory birds, and the potential to impact federally protected wetlands with construction and operation. Alternative 3 would result in site disturbance similar to that of the proposed project for the Pilot Flying J project site. However, for the Westside Annexation Area, the potential biological impacts would be greater with this alternative. While the majority of Alternative 3's parcels would remain as existing, one parcel of approximately 8 acres would result in the conversion of agricultural land to commercial uses. This increased development potential would impact greater numbers of biological resources not affected by the proposed project. It is not known if the impacts to the biological resources on this parcel could be mitigated to a less than significant level without a full biological assessment. As such, the impacts of this alternative would be greater than those of the proposed project.

3. Cultural Resources

Alternative 3 is the proposed project with a downsized Pilot Flying J project and the potential development of eight additional acres into commercial uses. Impacts to cultural resources are generally a result of the location of a project, as historical, archeological, and paleontological resources are stationary and moving a project may remove the impact to a specific cultural resource. However, a reduced project size may not necessarily reduce the amount of land disturbance. While no cultural or paleontological resources were identified on any of the parcels evaluated for the proposed project, mitigation measures were required to reduce the impacts to undiscovered cultural or paleontological resources. These same measures would be required for any land disturbances of Alternative 3. However, because the potential impact area is larger in size for Alternative 3 than the proposed project, the potential to impact cultural resources is greater. Thus, Alternative 3 would have a greater impact to cultural resources than that of the proposed project.

4. Climate Change and Greenhouse Gases

The proposed project will generate greenhouse gas emissions, as detailed in Impact 3.4.1. However, several State-led GHG emissions–reducing regulations reduce the potential impacts to a less than significant level. Alternative 3 would also be subject to these State-led measures. However, Alternative 3 would result in 263,208 square feet of commercial uses compared to the

57,364 square feet of the proposed project. Alternative 3 would have a much greater amount of commercial development compared to the proposed project and therefore would be expected to result in much higher GHG emissions. As such, Alternative 3 would have a greater impact in this area.

5. Hazards and Hazardous Materials

As identified in Impact 3.5.5, according to the EnviroStor and GeoTracker hazardous materials databases, none of the parcels in the Westside Annexation Area or the Pilot Flying J project site were identified as known hazardous materials sites or hazardous materials spill sites. While Alternative 3 would result in less intensity of development on the Pilot Flying J site, the parcels of Alternative 3 are the same parcels. As such, this alternative would have the same result regarding hazardous materials sites and hazards from airports or wildfires. Assuming that Alternative 3 would have similar typical commercial uses as the potential future uses of the Westside Annexation Area, Alternative 3 would have the same potential for the release of hazardous materials. As such, Alternative 3, even with a smaller Pilot Flying J project, would have similar impacts regarding hazards and hazardous materials when compared to the proposed project.

6. Land Use

Implementation of this alternative would require annexation and prezoning of the Alternative 3 area by the City of Orland, similar to the proposed Westside Annexation Area and Pilot Flying J project. The change in land use or zoning designations does not, in and of itself, constitute an environmental impact. Only those changes that conflict with an applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect would constitute an environmental impact. In this case, prezoning Alternative 3 would bring about consistency between the Orland General Plan land use designation and the zoning for the site and would not result in an environmental impact. As such, Alternative 3 would not result in impacts related to land use and would be similar to those of the proposed project, which also resulted in no impact to land use.

7. Noise

The proposed project would result in significant noise impacts due to the increase in traffic noise in the area. These impacts cannot feasibly be mitigated and therefore would result in cumulatively considerable and significant and unavoidable impacts. Alternative 3 has a smaller development potential for the Pilot Flying J project but a greater potential for the Westside Annexation Area than the proposed project. This greater commercial development would increase the traffic to the area and result in a substantial increase in traffic noise. As with the proposed project, this increase in traffic noise could not be mitigated to a less than significant level. While Alternative 3's Pilot Flying J project noise impacts would be less than the proposed project's, the difference in commercial square footage and traffic between Alternative 3 and the proposed project would result in a greater amount of traffic noise. As such, Alternative 3 would have a greater impact in the area of noise than the proposed project.

8. Transportation and Circulation

The proposed project is estimated to result in 4,145 daily vehicle trips for the Pilot Flying J project and 1,907 trips for Parcel B. Assuming the trip ratios are the same for Alternative 3 as they were for Parcel B (42.94 per 1,000 square feet), Alternative 3 would have 14,196 daily vehicle trips.[6] The proposed project would result in two cumulatively considerable and significant and unavoidable impacts to the existing roadway system as discussed in subsection 4.2 previously. Alternative 3 would have almost twice as many vehicle trips as the proposed project. Therefore, Alternative 3's impacts to the existing roadway system would be greater than the proposed project.

9. Utilities

Alternative 3 would result in the annexation of properties that currently have three residential units, Eagles Hall, a gas station/convenience store, vacant land, and agricultural land. Alternative 3 may result in the development of 10.54 acres of commercial uses in the Westside Annexation Area as well as a smaller Pilot Flying J project.[7] According to the Orland Sewer Master Plan, commercial uses are equal to 5.4 housing equivalents (HE) per acre. Using this factor, the Westside Annexation Area of Alternative 3 has the potential to result in 60 HEs,[8] or 25,860 gpd under current conditions.[9] Because Alternative 3's Pilot Flying J project has been reduced by 25 percent, the anticipated wastewater is also expected to be reduced by 25 percent. As such, the Pilot Flying J portion of Alternative 3 is anticipated to produce approximately 6,750 gpd of wastewater. This results in a total of 32,610 gpd of wastewater for Alternative 3. This amount represents approximately 1.6 percent of the existing treatment capacity of the WCTF.[10] While this amount of wastewater is slightly less than that of the proposed Westside Annexation Area and Pilot Flying J project, which is approximately 37,403 gpd, Alternative 3 would also not require the expansion of the City's wastewater facilities, as the WCTF has existing capacity to meet this need and wastewater lines are located in the street in the Alternative 3 area. Therefore, Alternative 3 would have a similar effect on the City's wastewater system when compared to the proposed project.

Future development of Alternative 3 may result in impacts to the City's water supply. Based on the development potential shown in **Table 4.0-3**, Alternative 3's Westside Annexation Area would result in provision for water service of three existing single-family homes, 0.84 acres of existing commercial uses (including Eagles Hall, which is considered a commercial use for land use purposes), and 9.7 acres of future commercial uses. According to the Orland Public Works Department, the current average daily water demand per commercial housing unit equivalent (HUE) is 3,985 gpd, while the residential HUE is 255 gpd (Orland 2014). Using these factors, Alternative 3's Westside Annexation Area has the potential to result in a commercial water demand of 15,940 gpd and a residential water demand of 765 gpd.[11] Additionally, because Alternative 3's Pilot Flying J project has been reduced by 25 percent, the anticipated water

[6] Includes 3,311 vehicle trips for Pilot Flying J project, 1,907 vehicle trips for Parcel B, and 8,978 vehicle trips for APN 045-170-003.

[7] Includes 10.54 acres of existing uses and future uses on APNs 045-140-003, 010, 045-170-003, and 045-170-005 (Parcel B) as commercial uses.

[8] Wastewater for the Westside Annexation Area includes 10.54 acres of commercial uses, as well as three single-family homes.

[9] Current wastewater flow per single-family home in the city is 431 gallons per day (Orland 2014). Therefore, 66 single-family homes produce 28,403 gpd (0.03 mgd) of wastewater.

[10] 32,610 gpd/2,100,000 gpd (2.1 mgd) of WCTF treatment capacity X 100% = 1.5%

[11] Commercial demand: 3,985 gpd per parcel X 4 parcels = 15,940 gpd. Residential demand: 3 units X 255 gpd per unit = 765 gpd.

demand is also expected to be reduced by 25 percent. As such, the Pilot Flying J portion of Alternative 3 is anticipated to have a water demand of approximately 6,750 gpd. This results in a total of water demand of 23,455 gpd for Alternative 3. In comparison, the proposed Westside Annexation Area and Pilot Flying J project would have the potential for a water demand of 30,985 gpd.

Existing water lines are located in the Alternative 3 area, so this alternative would not require the extension of water lines, similar to the proposed Westside Annexation Area and Pilot Flying J project. Under cumulative conditions, in the year 2028, the City is expected to need additional wells to supply anticipated growth. Because Alternative 3 would have more water demand (under theoretical conditions) than the proposed Westside Annexation Area and Pilot Flying J project, and the City is anticipating a need for additional wells to serve projected future growth, Alternative 3 would have more impact on water supply than the proposed project.

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 4.0-5 provides a summary of the potential impacts of the alternatives evaluated in this section, as compared with the potential impacts of the proposed project. Based on the evaluation contained in subsection 4.4, Alternative 2, Annexation of Pilot Flying J Project Only, would be the environmentally superior alternative, as it would result in less traffic, hazardous materials, and utilities impacts.

TABLE 4.0-5
ALTERNATIVES IMPACT COMPARISON

Environmental Issue	Proposed Project Impact Finding (Mitigated)	ALT 1: No Project	ALT 2: Pilot Flying J Only	ALT 3: Reduced Pilot Flying J
Air Quality	Less Than Significant	+	=	+
Biological Resources	Less Than Significant	+	=	+
Cultural Resources	Less Than Significant	+	=	+
Climate Change and Greenhouse Gases	Less Than Significant	+	=	+
Hazards and Hazardous Materials	Less Than Significant	=	-	=
Land Use	No Impact	=	=	=
Noise	Significant	+	=	+
Transportation and Circulation	Significant	+	-	+
Utilities	Less Than Significant	-	-	+

- Impacts less than those under proposed project

+ Impacts greater than those under proposed project

= Impacts the same as those under proposed project, or no better or worse

REFERENCES

Orland, City of. 2009. *Sewer Master Plan.* Accessed October 21, 2014. http://www.cityoforland.com/govt/dept/public_works/forms.asp.

———. 2014. Public Works Department – Answers to Utility Questions. November 20.

5.0 Other CEQA Analysis

This section discusses additional topics statutorily required by the California Environmental Quality Act (CEQA), including growth-inducing impacts, significant irreversible environmental changes/irretrievable commitment of resources, and energy conservation.

5.1 GROWTH-INDUCING IMPACTS

INTRODUCTION

CEQA Guidelines Section 15126.2(d) requires that an environmental impact report (EIR) evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by CEQA Guidelines Section 15126.2(d) as follows:

> *…the way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth… Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also…the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.*

A project can have direct and/or indirect growth inducement potential. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. For example, a project providing an increased water supply in an area where water service historically limited growth could be considered growth inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

The CEQA Guidelines state that it is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment (CEQA Guidelines Section 15126.2[d]). However, growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide land use development patterns and growth policies that allow the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service. A project that would induce "disorderly" growth (growth that conflicts with local land use plans) could indirectly cause additional adverse environmental impacts and other public services impacts. Thus, to assess whether a growth-inducing project would result in adverse secondary effects, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

COMPONENTS OF GROWTH

The timing, magnitude, and location of land development and population growth in a community or region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and nonresidential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions.

PROJECT-SPECIFIC GROWTH-INDUCING IMPACTS

Growth Inducement Potential

While it is anticipated that the existing uses in the Westside Annexation Area would remain, the potential exists for future commercial development in the Westside Annexation Area that could result in 44,000 square feet of new commercial uses based on the existing conditions, prezoning, and a realistic probability of these parcels to be developed (see **Table 2.0-1**).[1] Additionally, City annexation of the five parcels in the Westside Annexation Area would allow the connection of each parcel to the public utilities (i.e., water, sewer, and storm drainage) the City of Orland provides to parcels within the city limits. Connection to these utilities may further allow the parcels to develop at densities that may not have been possible without these City-supplied utilities. Thus, the City's annexation of the Westside Annexation Area might be considered as promoting growth and therefore have growth-inducing impacts. However, the Westside Annexation Area is within the Orland General Plan Planning Area and the five parcels would be annexed with land use designations identified in the General Plan for the parcels. Therefore, the growth impacts of potential future development consistent with the land use designations for the five parcels were anticipated and disclosed in the General Plan EIR, as shown in Table 4.8-3 and Table 4.8-4 of the General Plan Draft EIR (Orland 2010b, p 4.8-12). The future development of the Westside Annexation Area is consistent with and guided by the City's General Plan; thus, the project would have no direct or indirect growth-inducing impacts.

Development of the Pilot Flying J Travel Center would result in the conversion of vacant undeveloped land in a predominantly rural area, adjacent to existing agricultural uses, into a commercial use. In addition to the proposed development, utilities, including water, wastewater, storm drainage, and power, will be extended to the site. However, these utilities already exist in the surrounding roadways. Therefore, the Travel Center would not cause for the extension of these utilities or any roadways from outside the area and thus allow for development that could not be possible without the Travel Center. In other words, future development of the surrounding area would be possible, as least with regard to utilities and roadways, with or without the proposed Pilot Flying J Travel Center.

The Pilot Flying J Travel Center would provide 75 new jobs to the area. However, these jobs are anticipated to be filled by persons living in the area and would not require new housing. Therefore, the Pilot Flying J Travel Center would not have an indirect growth impact with regard to the need for new housing.

Additionally, the proposed Pilot Flying J would be developed as commercial uses consistent with the land use designation identified in the Orland General Plan for the site. As with the Westside

[1] Does not include the existing gas station/convenience store or the Eagles Hall parcels, as they are consistent with the existing or proposed General Plan land use designation.

Annexation Area, the growth impacts of potential future development consistent with the land use designations for Pilot Flying J site were anticipated and disclosed in the General Plan EIR, as shown in Table 4.8-3 and Table 4.8-4 of the General Plan Draft EIR (Orland 2010b, p 4.8-12). The future development of the area is consistent with and guided by the City's General Plan; thus, the project would have no direct or indirect growth-inducing impacts

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Public Resources Code Section 21100(b)(2), a part of CEQA, requires that certain EIRs must include a discussion of significant irreversible environmental changes of project implementation. CEQA Guidelines Section 15126.2(c) describes irreversible environmental changes as follows:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

Long-term irreversible environmental changes would include an increase in local and regional traffic and associated air pollutant emissions, noise level increases, or an increase in the volumes of solid waste.

Development of the project area would irretrievably commit building materials and energy to the construction and maintenance of the buildings and infrastructure proposed. Nonrenewable and limited resources that would likely be consumed as part of project site development would include, but are not limited to, oil, natural gas, gasoline, lumber, sand and gravel, asphalt, water, steel, and similar materials.

The use of materials for construction and operation of the proposed project would be similar to other commercial development envisioned by the City's General Plan and does not represent an unusual use of resources.

5.3 ENERGY CONSERVATION

INTRODUCTION

Public Resources Code Section 21100(b)(3) and CEQA Guidelines Section 15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the California Legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct state responses to energy emergencies, and—perhaps most importantly—promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the CEQA Guidelines.

CEQA Guidelines Appendix F is an advisory document that assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this EIR concludes that the proposed project would not result in the wasteful, inefficient, and unnecessary consumption of energy and therefore would not create a significant impact on energy resources.

BACKGROUND

Energy usage is typically quantified using the British thermal unit (BTU). As a point of reference, the approximate amounts of energy contained in common energy sources are as follows:

Energy Source	BTUs
Gasoline	124,000 per gallon
Diesel Fuel	139,000 per gallon
Natural Gas (compressed gas)	1,000 per cubic foot
Electricity	3,414 per kilowatt-hour

Sources: USDOE 2013

Given the nature of the proposed project, the following discussion focuses on the three sources of energy that are most relevant to the project: construction of project components, electricity and natural gas for proposed facilities, and transportation fuel for vehicle trips associated with the project.

Total energy usage in California was 7,858 trillion BTUs in 2011, which equates to an average of 209 million BTUs per capita. Of California's total energy usage, the breakdown by sector is 38.3 percent transportation, 22.8 percent industrial, 19.6 percent commercial, and 19.3 percent residential. Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use (EIA 2014). In 2013, taxable gasoline sales (including aviation gasoline) in California accounted for 14,532,944,431 gallons of gasoline (BOE 2014).

APPLICABLE REGULATIONS

Federal and state agencies regulate energy use and consumption through various means and programs. At the federal level, the US Department of Transportation, the US Department of Energy, and the US Environmental Protection Agency (EPA) are three agencies with substantial influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. At the state level, the California Public Utilities Commission (CPUC) and the California Energy Commission are two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards. California is exempt under federal law from setting state fuel economy standards for new on-road motor vehicles. Some of the more relevant state energy-related laws and plans are discussed below.

STATE

California Building Energy Efficiency Standards

The California Green Building Standards Code, CALGreen, was adopted as part of the California Building Standards Code (California Code of Regulations, Title 24, Part 11) and became effective January 1, 2011. Part 11 establishes voluntary standards on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

The California Energy Commission recently adopted changes to the 2013 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 11 (collectively referred to here as the standards). The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction. The standards offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

California Environmental Quality Act Guidelines

CEQA Guidelines Appendix F, Energy Conservation, requires consideration of project impacts on energy and focuses particularly on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (Public Resources Code Section 21100[b][3]). The potentially significant energy implications of a project must be considered in an EIR to the extent relevant and applicable to the project.

PROJECT ENERGY CONSUMPTION AND CONSERVATION

Construction activities would involve heavy equipment use that would consume fossil fuel for site preparation (e.g., grading, trenching) and electricity as a temporary power source for electric-powered machinery and tools. Although construction activities would be intermittent, they would use energy in ways that could be considered wasteful or inefficient if measures are not in place to reduce energy demand. Occupancy of new commercial buildings would consume energy in the form of fossil fuels, as would vehicles used by project occupants and visitors, administrative and maintenance staff (if on-site), and customers and workers.

The proposed project components would introduce energy. The project would consume energy in both the short term during project construction and in the long term during project operation. The analysis of electricity/natural gas usage is based on California Emissions Estimator Model (CalEEMod) air quality and greenhouse gas emissions modeling, which quantifies energy use for construction and occupancy with and without mitigation (CalEEMod construction outputs are coupled with conversion ratios obtained from the California Climate Action Registry [2009]). The results of CalEEMod modeling are included in **Appendix 3.4-A** of this Draft EIR. Modeling was based primarily on the default settings in the computer program for Glenn County. The amount of fuel use for the Westside Annexation Area was estimated using the California Air Resources Board's EMFAC2011 computer program, which also provides assumptions for typical daily fuel usage in Glenn County. The amount of fuel use for the proposed Pilot Flying J was provided by the applicant. This impact discussion assumes full growth potential of the project in order to present the maximum energy use.

Construction Phase

Construction activities would require the use of gasoline, diesel fuel, and other fuels. Energy use during construction typically involves the use of motor vehicles both for transportation of workers and equipment and for direct construction actions such as the use of cranes or lifts. Additional energy would be used for power tools and equipment used on-site, including but not limited to gas generators, air compressors, air handlers and filters, and other typical direct construction energy uses.

Using ratios provided in the Climate Action Registry (2009) General Reporting Protocol Version 3.1, construction associated with the proposed project components (i.e., the development potential in the Westside Annexation Area and the proposed Pilot Flying J project) would require approximately 64,039 gallons of diesel fuel (see **Appendix 5.0-1** for data outputs). This usage would constitute approximately 0.0004 percent (64,039 gallons for project/14,532,944,431 gallons for state = 0.0004 percent) of typical annual fuel usage in the state as reported by the California Board of Equalization and California Energy Commission.

The demand for fuel and other energy resources would not result in the need for new or altered facilities given the temporary nature of construction. Furthermore, construction activities are not anticipated to result in an inefficient use of energy, as construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would conserve the use of their supplies to minimize costs to the individual project. For these reasons and because of the temporary nature of construction activities, this would be less than significant impact.

Operational Phase

All buildings constructed as part of the proposed project would consume energy. In addition, traffic generated by new development would also consume energy.

Energy Consumption

Energy consumption associated with occupancy of all the potential building square footage is summarized in **Table 5.0-1**.

TABLE 5.0-1
PROJECT ENERGY CONSUMPTION FROM PROJECT COMMERCIAL SQUARE FOOTAGE

Source	Kilowatt Hours Annually	kBTU Annually	BTU Equivalent Annually
Westside Annexation Area	401,720	490,600	1,862,072,080
Pilot Flying J Travel Center	389,358	986,632	2,315,900,212

*Source: CalEEMod version 2013.2.2. See **Appendix 3.4-A** for model outputs.*

The project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of the Title 24 standards significantly reduces energy usage, and it is generally assumed that compliance with Title 24 ensures projects will not result in the inefficient, wasteful, or unnecessary consumption of energy. Furthermore, the electricity provider in Glenn County, Pacific Gas and Electric (PG&E), is subject to California's Renewables Portfolio Standard (RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of

total procurement by 2020. Renewable energy is generally defined as energy that comes from resources that are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures projects will not result in the waste of the finite energy resources.

Vehicle Trips Fuel Consumption

The additional daily traffic trips generated by the potential development within the Westside Annexation Area would result in the consumption of 520 gallons of automotive fuel and 40 gallons of diesel fuel daily (see **Appendix 5.0-1**). According to the Pilot Flying J applicant, the proposed travel center would dispense 7,500 gallons of automotive fuel and 40,000 gallons of diesel fuel daily. However, this fuel consumption would not be from the proposed project but rather from those buying and using the fuel. Therefore, the proposed Pilot Flying J project would not consume 7,500 gallons of automotive fuel and 40,000 gallons of diesel fuel daily. Project components would provide commercial land uses in close proximity to existing highways (Interstate 5 and State Route 32) that will serve professional truck drivers, the traveling public, and local residents of Orland with a fueling facility, convenience store, and restaurant. Due to the project's location adjacent to Interstate 5, the project would predominantly serve truck drivers and travelers already traversing Glenn County. In other words, project components would mostly serve truck drivers and travelers who would travel through Glenn County on Interstate 5 regardless of project implementation.

For the reasons described above, the proposed project would not place a substantial demand on regional energy supply or require significant additional capacity, or significantly increase peak and base period electricity demand, or cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance, or preempt future energy development or future energy conservation.

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7.0 Abbreviations

AADT	annual average daily traffic
AB	Assembly Bill
BAU	business as usual
CAAQS	California ambient air quality standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Cal Fire	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational and Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
CRHR	California Register of Historic Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	a-weighted decibel
DEIR	Draft Environmental Impact Report
DOC	California Department of Conservation

DOF	California Department of Finance
DOT	US Department of Transportation
DRRP	Diesel Risk Reduction Plan
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	environmental impact report
EMF	electromagnetic fields
EPA	US Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code
FHWA	Federal Highway Administration
FICON	Federal Interagency Committee on Noise
FTA	Federal Transit Administration
GCALUC	Glenn County Airport Land Use Commission
GCAPCD	Glenn County Air Pollution Control District
GHG	greenhouse gas
gpd	gallons per day
gpm	gallons per minute
HE	housing equivalent
HMTA	Hazardous Materials Transportation Act
HUE	housing unit equivalent
I-5	Interstate 5
ITE	Institute of Transportation Engineers
LCFS	Low Carbon Fuel Standard
Ldn	day/night average noise level
Leq	equivalent sound level
LOS	level of service
MBTA	Migratory Bird Treaty Act
mgd	million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MUTCD	Manual on Uniform Traffic Control Devices

NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NCRC	Northern California Resource Center
NHTSA	National Highway Transportation Safety Administration
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
N_2O	nitrous oxide
NSVAB	Northern Sacramento Valley Air Basin
OEHHA	California Office of Environmental Health Hazard Assessment
OHP	California Office of Historic Preservation
OPR	California Office of Planning and Research
OSHA	US Occupational Safety and Health Administration
O_3	ozone
PCB	polychlorinated biphenyl
PG&E	Pacific Gas and Electric Company
PM	particulate matter
POTW	publicly owned treatment works
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
PSA	project study area
psi	pounds per square inch
RCRA	Resource Conservation and Recovery Act
REL	reference exposure levels
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board

SB	Senate Bill
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SR	State Route
SSO	sanitary sewer overflow
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCAPCD	Tehama County Air Pollution Control District
TCR	Transportation Concept Report
TIS	traffic impact study
UBC	Uniform Building Code
USACE	US Army Corps of Engineers
USC	United States Code
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
UWMP	Urban Water Management Plan
VdB	vibration decibels
VOC	volatile organic compound
WCTF	Wastewater Collection and Treatment Facility
WDR	Waste Discharge Requirements